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Ontario Geological Survey
Open File Report 6065

Results of Modern Alluvium Sampling, Foleyet Area, Northeastern Ontario: Operation Treasure Hunt—Kapuskasing Structural Zone

2001

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Ontario

ONTARIO GEOLOGICAL SURVEY

Open File Report 6065

Results of Modern Alluvium Sampling, Foleyet Area, Northeastern Ontario: Operation Treasure Hunt—Kapuskasing Structural Zone

by

Ontario Geological Survey

2001

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Contents

Abstract xv
Introduction 1
    Study Area 1
    Physiography 4

Regional Bedrock Geology – Foleyet Study Area 4
    Kimberlites and Related Rocks North of the Study Area 6
    Alkalic Complexes in the Foleyet Study Area 9
    Kimberlite and Diamond Potential of the Study Area 9

Glacial Geology 11

Material Sampling 11

Heavy Mineral Recovery and Identification 13

Data Plotting Parameters 13

Kimberlite Indicator Minerals 15
    The Mantle Sample 15

Geochemical Characteristics of Important Kimberlite Indicator Minerals 16
    Garnet 16
    Chromite 18
    Mg-Ilmenite 25
    Cr-Diopside 26
    Olivine 36
    Recommendations for Kimberlite Exploration 40

Metamorphic/Magmatic Massive Sulphide Indicator Minerals 43
    Gahnite 45
    Cr-diopside 45
    Recommendations for Metamorphic/Magmatic Massive Sulphide Exploration 49

Carbonatite Indicator Minerals 49

Gold 53

Acknowledgements 55

References 56

Appendix A: Sample Locations by UTM Coordinates and Township 63

Appendix B: Summary Counts of Picked and Estimated Numbers of Kimberlite Indicator Mineral Grains 75

Appendix C: Kimberlite Indicator Minerals in 496 Modern Alluvium Samples from the Foleyet Area 87

Appendix D: Mineral Chemistry for KIM Grains: Garnet, Mg-Ilmenite, Chromite, Cr-Diopside and Olivine .... MRD 83

Appendix E: Metamorphic/Magmatic Massive Sulphide Indicator Minerals in 496 Modern Alluvium Samples for the Foleyet Area 105

Appendix F: Mineral Chemistry for Gahnite (MMSIM) .... MRD 83

Appendix G: Number of Total, Reshaped, Modified and Pristine Gold Grains 133

Metric Conversion Table 144

*Miscellaneous Data Release ** (MRD 83): see page xiii

Figures

Figure 1. Location of the Operation Treasure Hunt, Kapuskasing Structural Zone, modern alluvium sampling project areas 2

Figure 2. Locations of the 1994, 1996, 1997, 1998 and 2000 OGS sampling programs and the approximate location of the Kapuskasing Structural Zone 3

Figure 3. Regional distribution of sample sites ..... Back Pocket

Figure 4. Approximate location of the drainage divide and major drainage basins in the Foleyet study area 5

Figure 5. Bedrock geology of the Foleyet study area 7

Figure 6. Location of the 6 greenstone belts in the Foleyet study area 8

Figure 7. Quaternary geology of the Foleyet study area 12

Figure 8. Heavy mineral sample processing flow chart 14

Figure 9. a) CaO vs. Cr_2O_3 garnet discriminant plot 19
b) Na_2O vs. TiO_2 garnet discriminant plot 19

Figure 10. Regional distribution of garnet KIMs in the Foleyet study area 20

Figure 11. TiO_2 vs. Cr_2O_3 plot for 2200 chromite xenocrysts isolated from Ontario kimberlites 22

Figure 12. a) MgO vs. Cr_2O_3 plot for chromites recovered in the Foleyet study area 23
b) TiO_2 vs. Cr_2O_3 chromite discriminant plot 23

Figure 13. Regional distribution of chromites in the Foleyet study area 24

Figure 14. MgO vs. Cr_2O_3 discriminant plot for Mg-ilmenites 27

Figure 15. Regional distribution of Mg-ilmenites in the Foleyet study area 28

Figure 16. Al-Na-Cr clinopyroxene ternary diagram for samples from the Foleyet study area 30

Figure 17. Ca/(Ca+Mg) vs. Na_2O binary plot for clinopyroxenes from the Foleyet study area 31

Figure 18. Ca/(Ca+Mg) vs. Na_2O binary plot for lherzolite xenoliths from kimberlites (global) and xenocrysts from Attawapiskat kimberlites 32

Figure 19. Ca/(Ca+Mg) vs. Na_2O classification scheme for clinopyroxenes from the Foleyet study area that plot within the field defined by mantle xenoliths and xenocrysts on the Al-Na-Cr ternary diagram 34

Figure 20. Regional distribution of Cr-diopside KIM grains in the Foleyet study area 35

Figure 21. Fo # vs. CaO plot for olivines isolated from numerous kimberlitic heavy mineral concentrates from Ontario kimberlites 37

Figure 22. Fo # vs. CaO plot for olivines recovered from the Foleyet study area 38

Figure 23. Regional distribution of olivine KIMs in the Foleyet study area 39

Figure 24. Regional distribution of total KIMs in the Foleyet study area 42

Figure 25. Regional distribution of chalcopyrite and gahnite grains in the Foleyet study area 46

Figure 26. Regional distribution of non-KIM clinopyroxenes in the Foleyet study area .... 47 & 48

Figure 27. Regional distribution of the total MMSIM® population based on a ranking system 50

Figure 28. Regional distribution of carbonatite indicator minerals in the Foleyet study area 52

Figure 29. Regional distribution of gold grains in the Foleyet study area 54

Tables

Table 1. Summary table of samples containing the most significant numbers and types of KIMs in the Foleyet study area 41

Table 2. Indicator minerals commonly associated with base metal mineralization 44

Table 3. Summary table of samples containing the most significant numbers and types of MMSIMs within the Foleyet study area 51

*Miscellaneous Release—Data 83

Modern Alluvium Data Release, Foleyet Area, Northeastern Ontario: Operation Treasure Hunt.

by Ontario Geological Survey.

This release consists of data related to kimberlite indicator minerals (KIMs), metamorphosed magmatic/massive sulphide indicator minerals (MMSIMs®), carbonatite indicator minerals and gold grains recovered from modern alluvium samples collected in the Foleyet area, northeastern Ontario. The data are being released in conjunction with Open File Report 6065. Files on this release contain information on abbreviations used; sample site locations; KIM counts; microprobe data for KIMs (e.g., garnets, chromites, Mg-ilmenites, olivines, and pyroxenes); MMSIMs®; microprobe data for MMSIMs®, gahnite; carbonatite indicator minerals; and gold grains. Data is available as self-extracting zip files in ASCII (.txt) and Microsoft Excel (.xls) file format on one 3.5-inch MS-DOS diskette.

This diskette is available separately from the report.

Abstract

In 2000 the Ontario Geological Survey (OGS) completed a modern alluvium sampling study in the Foleyet area of northeastern Ontario to determine the presence of kimberlite indicator minerals (KIMs), metamorphic/magmatic massive sulphide indicator minerals (MMSIMs®) and gold grains. This study was carried out as part of the Ontario Treasure Hunt (OTH) program. Results showed the presence of a number of indicator minerals commonly associated with kimberlite and base metal deposits.

A number of important indicator minerals were recovered as part of this survey including a single G10 Cr-pyrope garnet. Other KIMs recovered from the sampling program include: "G9" Cr-pyrope garnets; megagrystic garnets; eclogitic garnets; picro-ilmenites; kimberlitic Cr-diopsides; and forsteritic olivines. Seven important areas are highlighted that host sites with the most anomalous KIM counts based on both a variety of KIMs and total grain counts. These include: Shawmere (area 1); Foleyet (area 2); Griffin Lake (area 3); Greenhill River/Minnipuka Lake (area 4); Dubreuilville (area 5); Mishibishu Lake (area 6); and Peterbell (area 7). The G10 garnet (KAP-0593) was recovered from Lincoln Creek in Lemoine Township (area 1). These areas are recommended as the most prospective areas to carry out kimberlite exploration in the Foleyet study area.

A number of metamorphic/magmatic massive sulphide indicator minerals were recovered including numerous chalcopyrites and gahnites. A number of areas that exhibit anomalous distributions of MMSIMs® are highlighted in the report.

Results of Modern Alluvium Sampling, Foleyet Area, Northeastern Ontario: Operation Treasure Hunt—Kapuskasing Structural Zone

Ontario Geological Survey

Ontario Geological Survey
Open File Report 6065
2001

Compilation of data and written report by D.C. Crabtree. Project supervision by C.L. Baker and R.D. Dyer. Review by C.L. Baker and R.I. Kelly.

Introduction

Modern alluvium sampling for heavy mineral indicator grains was carried out over the Kapuskasing Structural Zone (KSZ) during the summer of 2000 as part of the Operation Treasure Hunt (OTH) program (Figure 1). This project is one of several geoscience projects being completed under OTH.

Traditionally, the modern alluvium sampling program of the Ontario Geological Survey (OGS) has undertaken medium to high density sampling over structurally favorable shield terrain in Ontario in conjunction with Quaternary mapping. The Kapuskasing Structural Zone OTH project involved medium density (approximately 1 sample per 30 km^2) sampling over an area of approximately 65 000 km^2 in north-central Ontario. Approximately 2000 samples were collected and processed to isolate kimberlite indicator minerals (KIMs), metamorphic/magmatic massive sulphide indicator minerals (MMSIMs®) and gold grains. Results for modern alluvium samples collected in the Kapuskasing-Fraserdale (Ontario Geological Survey 2001a) and Chapleau (Ontario Geological Survey 2001b) areas have been previously released (Figure 2). The current report highlights the data and preliminary interpretation of the distribution of KIMs, MMSIMs® and gold grains for the 496 modern alluvium samples collected from the 18 800 km^2 Foleyet section of the OTH sampling survey (Figure 3) (Appendix A).

Previous studies have shown that KIMs and MMSIMs® commonly occur in the Kapuskasing Structural Zone (Wolfe et al. 1975; Morris et al. 1994, Morris et al. 1997a, Morris et al.1998a, Stephenson et al. 1999). From 1994 to 1996 a combination of mapping and modern alluvium/soil sampling was completed in the Wawa region (Figure 2) in the southern part of the KSZ (Morris 1994, Morris et al. 1994, Morris 1996, Morris et al. 1997a). In 1997 and 1998, overburden mapping combined with till and modern alluvium sampling programs were initiated by the OGS over the KSZ south of Kapuskasing in the Woman Falls-Wakusimi River (Morris 1997, Morris et al.1998a) and the Opasatika-Roche Lake areas (Stephenson et al. 1999). Samples from all of these studies were processed for KIMs, MMSIMs®, and gold.

The objective of the present OTH study was to complete a program of modern alluvium sampling to further evaluate the mineral potential of the KSZ area. Sampling and analysis were designed to identify: 1) the presence of KIMs and MMSIMs®; and 2) the background values for gold within modern alluvium of the Foleyet area and determine whether anomalous values were present.

Study Area

The modern alluvium sampling component of the OTH program covers a region that extends from south of Chapleau to north of Fraserdale. This region, which overlays the KSZ, has been sub-divided into 4 areas that include: the Chapleau; Foleyet; Kapuskasing-Fraserdale; and Coral Rapids areas (Figure 1). This report covers the Foleyet area.

The Foleyet area is represented on 21, 1:50 000 scale National Topographic System (NTS) maps that include: Kabinakagami Lake (42-C/16); Minnipuka (42 B/13);

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*MMSIM is a registered trademark of Overburden Drilling Management Limited, Nepean, Ontario.

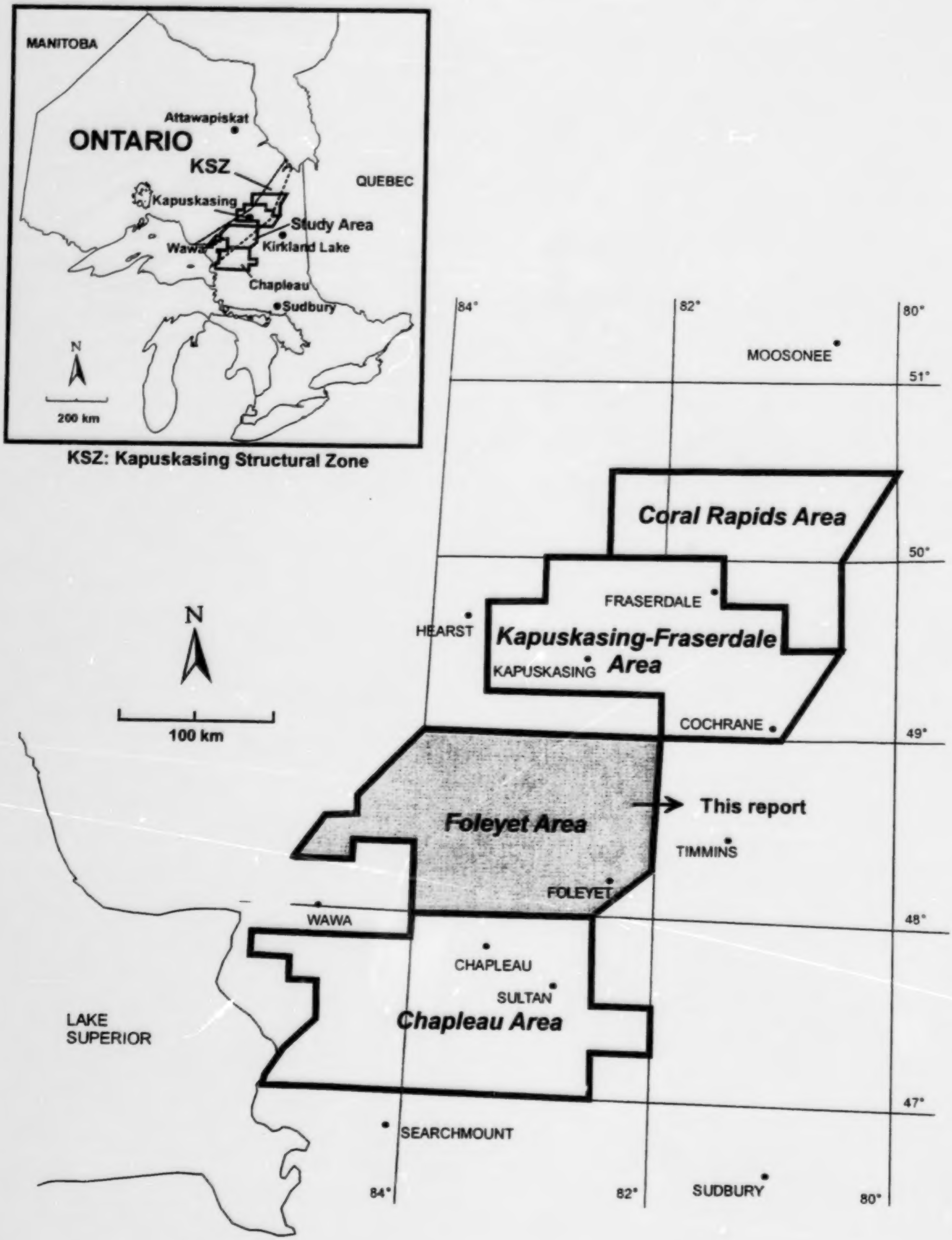


Figure 1: Location of the Operation Treasure Hunt, Kapuskasing Structural Zone, modern alluvium sampling project areas.

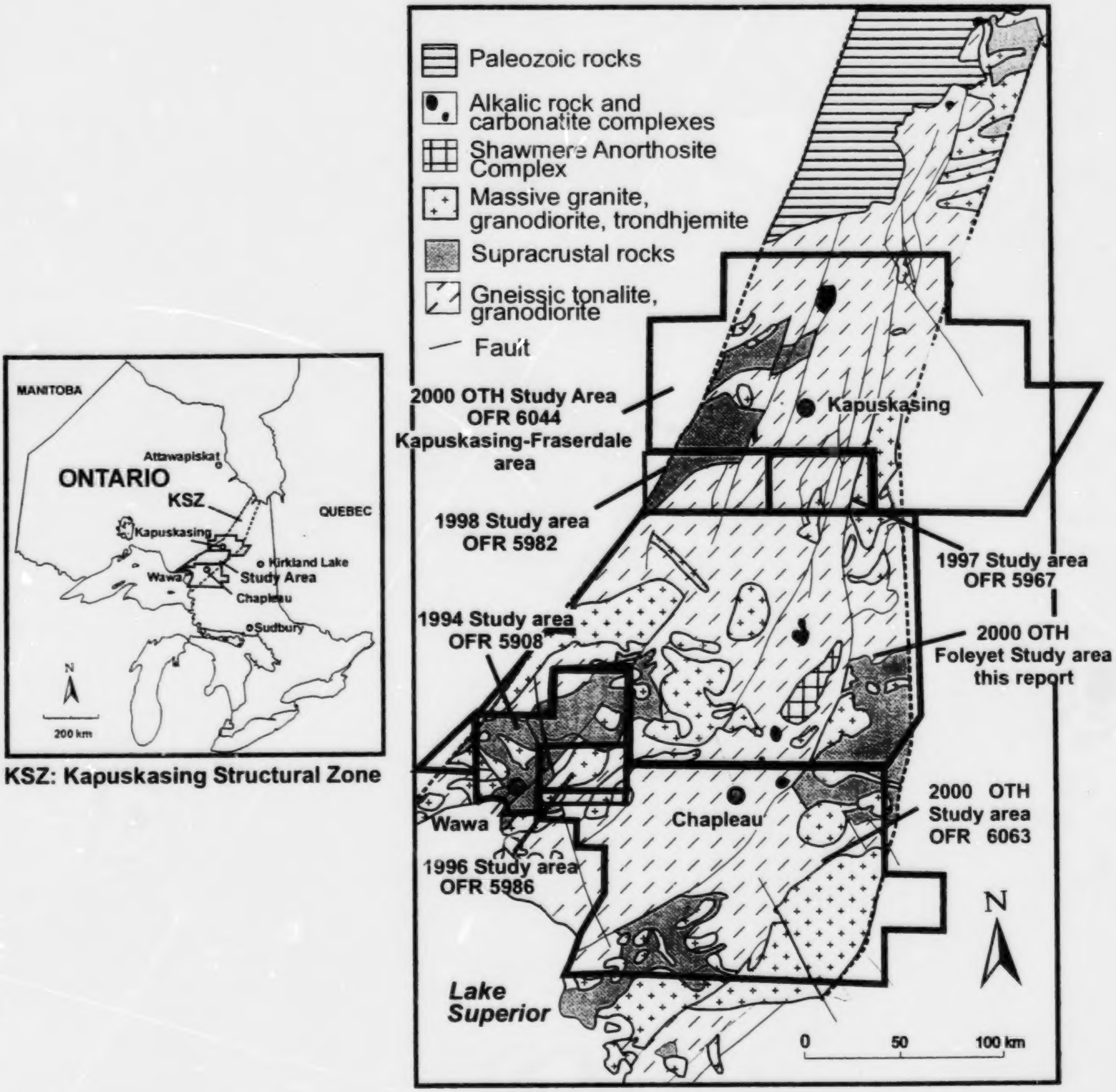

MANITOBA
ONTARIO
Attawapiskat
KSZ
QUEBEC
Kapuskasing
Kirkland Lake
Wawa
Study Area
Chapleau
Sudbury
N
200 km
KSZ: Kapuskasing Structural Zone
Paleozoic rocks
Alkalic rock and carbonatite complexes
Shawmere Anorthosite Complex
Massive granite, granodiorite, trondhjemite
Supracrustal rocks
Gneissic tonalite, granodiorite
Fault
2000 OTH Study Area OFR 6044 Kapuskasing-Fraserdale area
Kapuskasing
1998 Study area OFR 5982
1997 Study area OFR 5967
1994 Study area OFR 5908
2000 OTH Foleyet Study area this report
Chapleau
Wawa
2000 OTH Study area OFR 6063
1996 Study area OFR 5986
Lake Superior
N
0
50
100 km

Figure 2: Locations of the 1994, 1996, 1997, 1998 and 2000 OGS sampling programs and the approximate location of the Kapuskasing Structural Zone (KSZ)(Modified from Sage 1991).

Ericson Creek (42-B/14); Allenby Creek (42-B/15); Griffin Lake (42-B/16); Oba Lake (42-C/9); Greenhill River (42-B/12); Peterbell (42-B/11); Elsas (42-B/10); Elf Lake (42-B/9); Medhurst Creek (42-C/7); Franz (42-C/8); Missinaibi Lake (42-B/5); Makonie Lake (42-B/6); Missonga (42-B/7); Oswald Lake (42-B/8); Mishibishu Lake (42-C/3); Bolkow (42-B/4); Swanson River (42-B/3); Inanhoe Lake (42-B/2); and Foleyet (42-B/1).

The area is bounded by longitudes 85°20'W and 82°00'W and latitudes 49°00'N and 48°00'N (Figure 3, back pocket). Access to the area is accomplished through a network of roads including, Highways 17, 651, 101 and a series of secondary roads. A helicopter, float plane and boat were used to access areas not covered by a road network.

Physiography

The study area is located in the Abitibi Upland physiographic region of Canada (Bostock 1970). Surface drainage is controlled by the arctic watershed (height of land) which transects the south-west portion of the study area (Figure 4). Rivers to the north of the watershed flow northward into James Bay via 2 major river drainage basins that include the Missinaibi and Metagami (Chapman and Gosson 1985). The major rivers in the study area within these 2 drainage basins include the Oba and Missinaibi (Missinaibi drainage basin), the Chapleau, Nemogosenda, Kapuskasing, Ivanhoe and Groundhog rivers (Metagami drainage basin). The Missinaibi and Metagami river systems in turn flow into the Moose River basin, which drains into James Bay. The major rivers to the south of the watershed flow southward into Lake Superior, and include the Magpie and University rivers in the southwest part of the study area.

Regional Bedrock Geology – Foleyet Study Area

The Foleyet study area is located in the Superior Province and includes the eastern extension of the Wawa subprovince and a smaller component of the western extension of the Abitibi subprovince. This area is situated within the northeast trending Kapuskasing Structural Zone (KSZ), which transects the east-west oriented belts of the central Superior Province over a distance of approximately 500 km from Lake Superior through to James Bay.

The KSZ represents a region of uplifted Archean crust. In the southern part of the study area the Kapuskasing uplift can be subdivided into lithotectonic elements that include; the low grade Michipicoten greenstone belt, the Wawa gneiss domain, and the high grade Chapleau block (Percival and West 1994). This west to east greenschist to granulite facies metamorphic transition is interpreted as an oblique cross section through an Archean greenstone belt (Percival and McGrath 1986). The easterly margin of the KSZ is defined by the Ivanhoe Lake fault; this fault represents the margin between the Wawa and Abitibi sub-provinces.

The timing of the Kapuskasing uplift is not clearly understood, however, detailed studies of deformation effects in early Proterozoic dike swarms suggest that it did not occur prior to the emplacement of the 2.04 Ga Kapuskasing dikes (Halls et al. 1994). The occurrence of non-deformed 1.8 Ga alkalic complexes in the Chapleau block (Sage 1991) suggests that the time of uplift can therefore be constrained to ca. 1.9 Ga. (Percival and West, 1994).

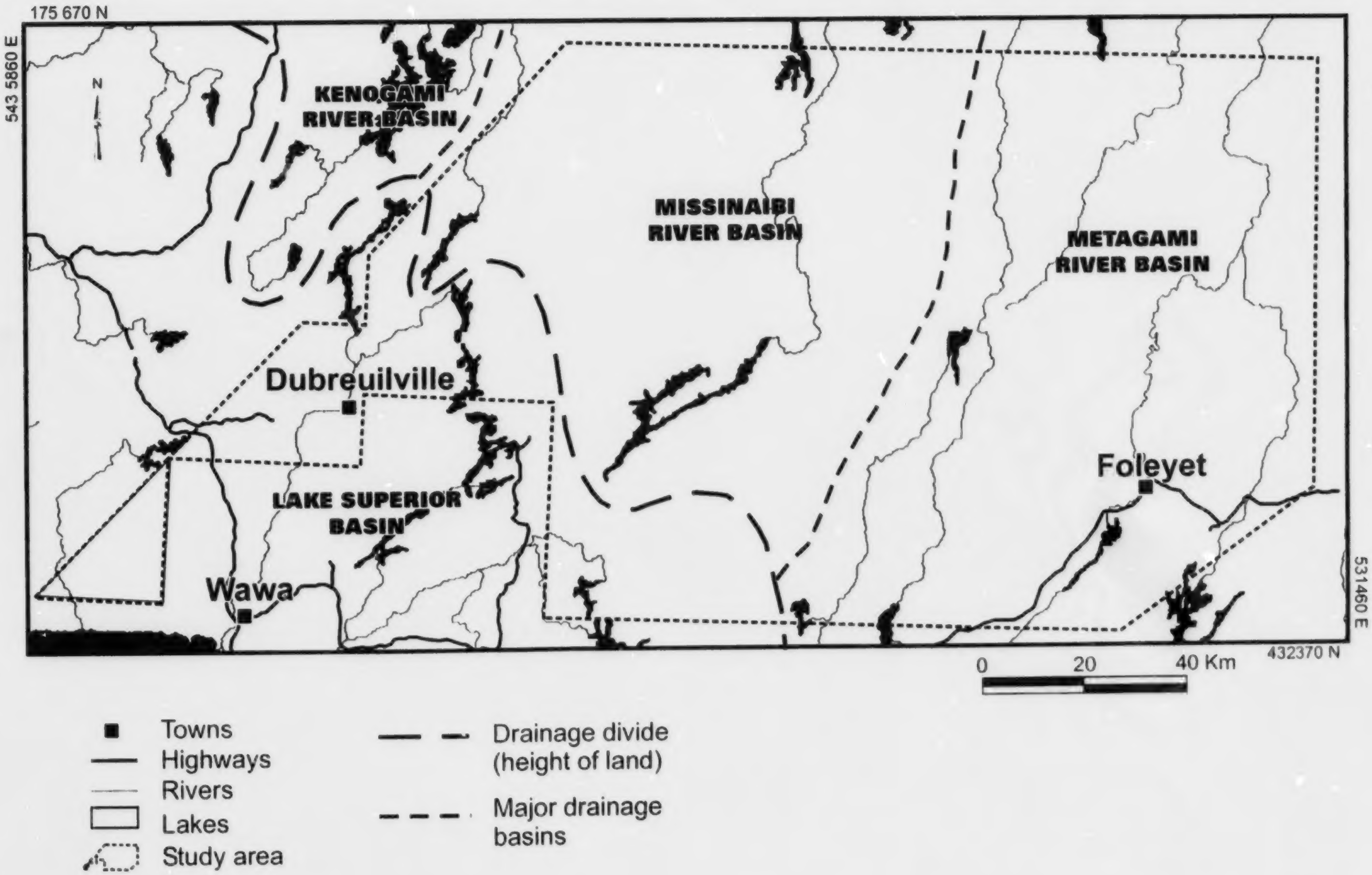


Figure 4. Approximate location of the drainage divide and major drainage basins in the Foleyet study area.

The bedrock geology of the Foleyet study area can be described, somewhat crudely, as being dominated by gneissic tonalite and granitic intrusive rocks (Figure 5). The high grade Chapleau block is dominated by mafic gneisses, dioritic gneisses, paragneisses, tonalites and the Shawmere anorthosite complex. The study area is also host to 5 greenstone belts; these are characterised by felsic through mafic metavolcanic rocks and in some, ultramafic metavolcanic and metasedimentary units do occur. The Michipocoten, Dayohessarah-Kabinakagami and Casselman greenstone belts are located in the Wawa subprovince. The Swayze and Montcalm greenstone belts are located to the east of the KSZ in the Abitibi subprovince (Figure 6). For a detailed description of major lithologic features and a more comprehensive compilation of the geological evolution of the area, the reader is referred to Percival and West (1994).

A documentation of mineral occurrences within the Foleyet study area is well beyond the scope of this report. For further information on this topic the reader is referred to the numerous assessment files that are kept on record at the Mines and Minerals Library located in Sudbury and the Sault Ste. Marie and Timmins Resident Geologists Offices.

Kimberlites and Related Rocks North of the Study Area

Kimberlites of both Jurassic and Mesoproterozoic age occur approximately 400 km north of the study area in the vicinity of the Attawapiskat River, James Bay Lowland. The Attawapiskat kimberlite field contains the only known outcrops of kimberlite in the province. These include the Zulu and Victor pipes (Sage 2000b).

The Jurassic diatremes were discovered by Monopros during the 1980s. A detailed account of the discovery including a discussion on down ice indicator mineral dispersion patterns is given in Kong et al. (1999). By the early 1990s KWG Resources and their partner, Spider Resources, had identified diatremes of Proterozoic age approximately 100 km due west of the Jurassic cluster. The diamond bearing Kyle Lake No.1 kimberlite has been the most rigorously studied kimberlite from this group (Sage 2000b).

Numerous mafic to ultramafic intrusions have been identified in 2 major clusters approximately 150 km north of the study area. These rocks were discovered during a joint venture exploration program between Selco Mining Corporation and Esso Minerals Canada between 1979 and 1982 (Sage 2000b). A total of 45 intrusions were identified in an area north of the town of Hearst. The majority of these were classified as tuffisitic breccia, with a few being classified as carbonatite and alnoite (Janse et al. 1989). A second cluster was identified in the vicinity of Sextant Rapids and, according to Sage (2000b), these have been classified as lamprophyres and ultramafic breccia.

Sage (2000b) has used the term “psuedokimberlite” to describe these mafic-ultramafic intrusive rocks north of Hearst and near Sextant Rapids. This term, which also includes carbonatites, is a somewhat crude descriptive term for rocks that may resemble kimberlite. Since carbonatites and members of the ultramafic lamprophyre group (alnoites and aillikites for example) are petrographically distinguishable, this expression is not used herein. In this report, the term “melnoite” has been adopted to describe these rocks. The use of this term was developed by the Geology Department of DeBeers Consolidated Mines Ltd. in order to help rationalise some of the terminological problems related to diamond exploration programs (Scott Smith 1995). The term “melnoite”, which is devoid of petrographic connotations, can be used to

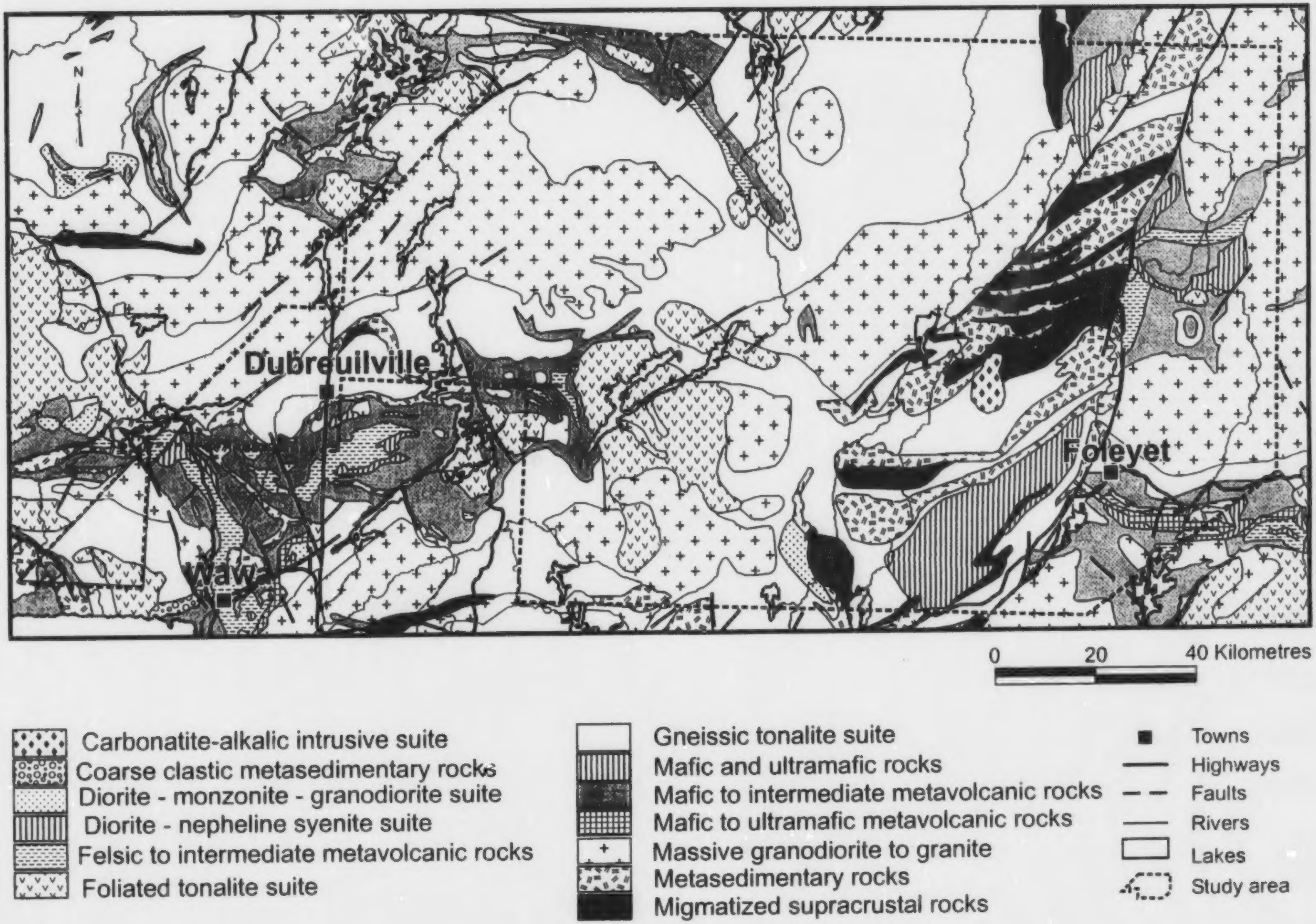

N
Dubreuilville
Wawa
Foleyet
0
20
40 Kilometres
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks
Towns
Highways
Faults
Rivers
Lakes
Study area

Figure 5. Bedrock geology of the Foleyet study area.

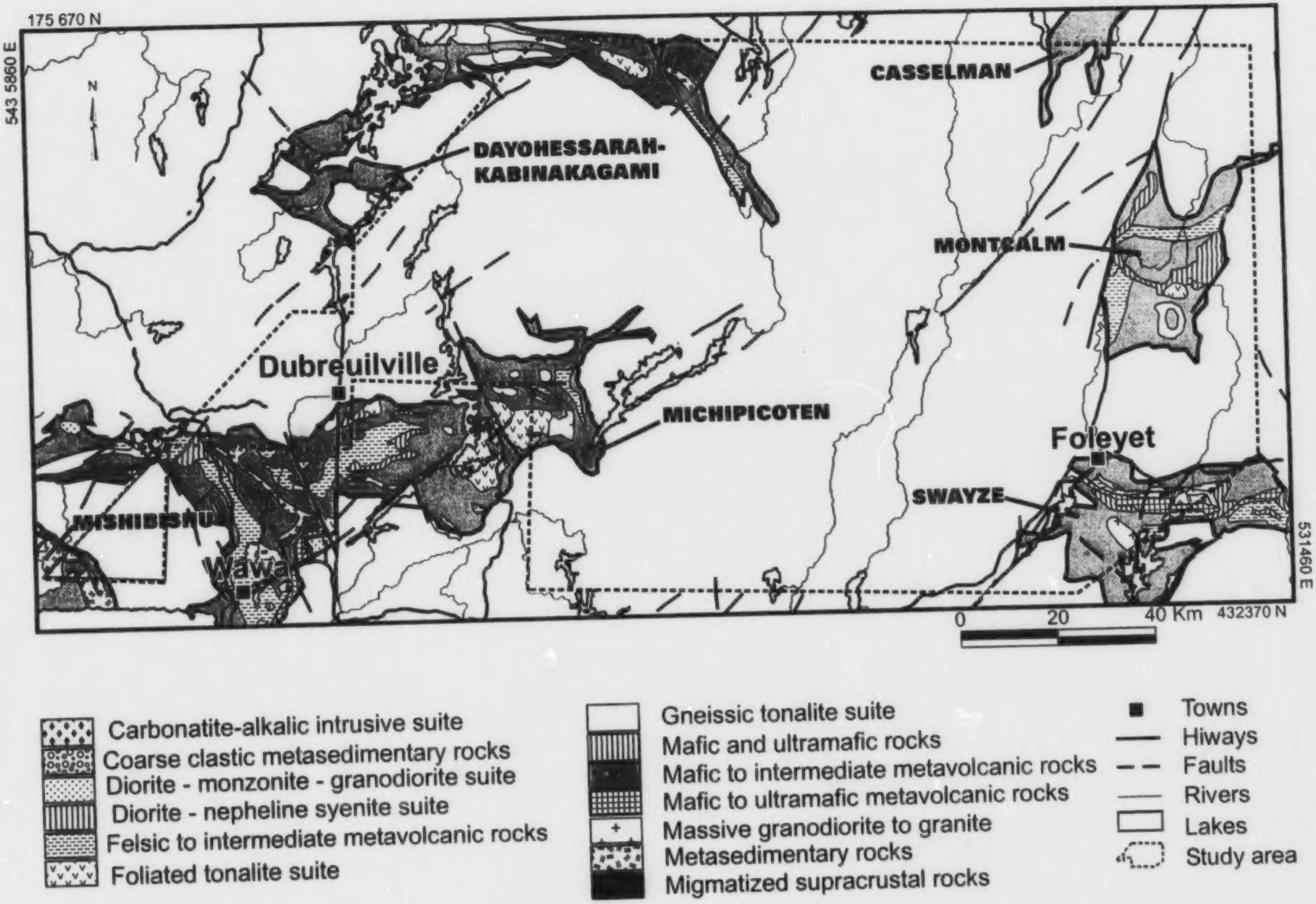

175 670 N
543 5860 E
N
DAYOHESSARAH-
KABINAKAGAMI
CASSELMAN
MONTCALM
Dubreuilville
MICHIPICOTEN
Foleyet
SWAYZE
MISHIBISHU
Wawa
531460 E
432370 N
0
20
40 Km
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks
Towns
Hiways
Faults
Rivers
Lakes
Study area

Figure 6. Location of 6 the greenstone belts in the Foleyet study area.

describe rocks belonging to the lamprophyre facies, including but not restricted to ultramafic lamprophyres. The term is supported by Mitchell (Lakehead University, personal communication, 2000) and will be used herein to describe the tuffissitic breccias, alnoites and any other lamprophyre facies rocks that occur in the vicinity of the study area.

Alkalic Complexes in the Foleyet Study Area

There are 2 major alkalic-carbonatite complexes present in the Foleyet study area. These include: 1) the Shenango Township alkalic complex; and 2) the Nemogosenda Lake alkalic complex. Both of these complexes are Mesoproterozoic in age.

The Shenango Township alkalic complex is situated within the Chapleau block north of the Shawmere anorthosite (Figure 5). This complex is silica-saturated to silica oversaturated and consists of diorite, syenodiorite, monzonite and quartz monzonite. As such, mineralization normally associated with silica-undersaturated alkalic complexes does not occur in the Shenango complex (Sage 1987a). The Nemogosenda Lake alkalic complex is located on the southern margin of the study area and overlaps both this study area and that previously reported for the Chapleau study area (Ontario Geological Survey 2001b). This complex consists of carbonatite, nepheline syenite, ijolite, gabbro and fenitic lithological units (Sage 1987b). The Nemegosenda Lake alkalic complex displays niobium mineralization and is characterised by other minerals commonly associated with alkalic complexes such as sodic pyroxenes (aegirine and aegirine-augite), magnetite, apatite and rare earth minerals.

Carbonatites are of economic interest since these complexes may be host to significant reserves of niobium in the form of pyrochlore mineralization. In addition to this, carbonatites also represent important sources of rare earth elements, thorium, iron, titanium, phosphorus and barium (Heinrich 1966).

Kimberlite and Diamond Potential of the Study Area

To date, 2 areas within northeastern Ontario have been shown to host to kimberlite. These areas are: 1) the Kirkland Lake-Cobalt area; and 2) the Attawapiskat and Missisa Lake regions in the James Bay Lowland. The results of exploration programs in the KSZ have also documented the occurrence of kimberlite in the Wawa region.

The focus on the KSZ began in 1993 when M. Clement (local prospector) reported the recovery of diamonds from the Michipicoten River. The OGS followed up this discovery with a modern alluvium sampling program in the Michipicoten-Wawa area and the results of this work demonstrated the presence of numerous indicator minerals in the area including Ca-depleted G10 garnets and Cr-Mg rich inclusion field chromites (Morris et al. 1994). Subsequent modern alluvium sampling programs in the vicinity of both Wawa and the town of Kapuskasing (Morris et al. 1997a, Morris et al. 1998a, Morris et al. 1988b, and Stephenson et al. 1999) revealed similar results.

In addition to the recovery of these important indicator minerals, there are a number of geologic and geotectonic characteristics that make the area an attractive region for diamond exploration. First and foremost is the recognition that a correlation exists between diamondiferous kimberlites and stable Archean cratons where relatively cool and highly refractory lithospheric mantle roots have been preserved in the sub-cratonic environment (Helmstaedt and Gurney 1995).

Preservation of these roots (and the diamonds therein) requires that these structures remain insulated against excessive re-heating and subsequent plate motions. The results of seismic tomography (Grand 1987), although speculative, suggests that the lithospheric regions beneath the Superior and Slave Archean provinces are characterised by relatively fast shear wave velocities and as such constitute areas below which thick lithospheric mantle roots are preserved.

It is difficult to predict whether the Proterozoic event that thrust Archean basement from the Wawa subprovince onto the Abitibi subprovince would be beneficial or detrimental to the preservation of an ancient lithospheric root in the vicinity of the KSZ. However, the recovery of numerous Ca-depleted garnets from alluvium sampling within the KSZ strongly suggests that if these grains are locally derived, then highly refractory depleted mantle either exists or existed below this region and was sampled by a magma that tapped this root zone.

It is interesting to note that the highly depleted compositions (CaO < 2 wt% and $Cr_2O_3 > 6$ wt%) observed in some of the KSZ G-10 alluvial garnets from previous OGS projects are not observed in garnet xenocryst populations isolated from numerous Kirkland Lake-Cobalt (Sage 1996, Sage 2000a) and Attawapiskat diatremes (Sage 2000b). An exception to this is the Proterozoic diamondiferous intrusion at Kyle Lake, James Bay Lowland.

This is an important point to emphasise since it negates the possibility that the Ca-depleted alluvial garnets recovered from previous OGS projects were transported down ice from the vicinity of the Attawapiskat River. Only the Kyle Lake No.1 pipe contains garnets of similar composition. However, since this pipe is Proterozoic in age it did not therefore intrude the Paleozoic rocks covering the region. Glacial transport of the indicator minerals from this location could, therefore, not occur. Furthermore, the indicator mineral dispersion plume from the Attawapiskat cluster as described by Kong et al. (1999) is not extensive enough to have penetrated the Foleyet study area.

Considering the above points, the kimberlite and diamond potential of the study area can be summarised as follows:

1) the study area is situated in a stable Archean cratonic environment where the preservation of a depleted lithospheric root is likely;
2) recovery of Ca-depleted G10 alluvial garnets and inclusion field chromites in the vicinity of the KSZ suggests that a diamond facies depleted mantle root was sampled at some point in time by kimberlitic or related magmas;
3) the discovery of diamond bearing Archean ultramafic dikes in the Wawa area suggests that the diamond facies lithospheric mantle was at the least sampled during Archean times;
4) the absence of G10 garnets and inclusion field chromites from these same altered ultramafic dikes suggests a different source for those minerals recovered during alluvial sampling programs.

Glacial Geology

Approximately 10 000 years ago at the beginning of the Holocene, the last major advance of the Laurentide ice sheet into the Lake Superior basin took place (Marquette advance). During this time the Laurentide ice sheet covered the Foleyet study area.

By approximately 9000 years ago the ice margin had retreated to the northern part of the study area and was in contact with a large proglacial lake (Lake Ojibway). During this period, the extensive glaciolucustrine sediments in the northern part of the study area were deposited (Barnett 1992). The southern limit of glacial Lake Ojibway was controlled to a large degree by the drainage divide (height of land) that transects the study area. Post-glacial rivers north of this divide drained into Lake Ojibway, while rivers to the south of the divide drained into the late phase of Lake Minong (or early Lake Houghton) which occupied the present day Lake Superior basin.

Between 7900 and 8300 years ago, local surges of ice into the northern part of the study area took place. This re-advance of the Laurentide ice sheet is known as the Cochrane advance and is recorded in the fine-grained tills that overlie some of the glaciolacustrine sediments of glacial Lake Ojibway.

The glaciolacustrine and fine-grained till sediments in the northern part of the study area are contrasted by the thin discontinuous till covered bedrock domain in the southern portion of the study area (Figure 7). Glaciofluvial sand and gravel outwash deposits and sinuous southwest trending eskers are most common in the southern portion of the study area (Barnett et al. 1991).

Surficial mapping in the area has been completed at a regional scale (1:506 880) by Boissonneau (1965). More recently, the surficial geology for the area has been compiled at a scale of 1: 1 200 000 by Sado and Carswell (1987) and at a scale of 1:1 000 000 by Barnett et al. (1991). It is difficult to assess the direction of older versus younger ice movements in the area since detailed Quaternary mapping coverage of the area is limited. However, evidence from linear ice flow indicators such as glacial striae, drumlins and crag and tail forms suggest that the last ice movement in the area was generally southwest (Boissonneau 1966; Sado and Carswell 1987). A notable exception to this occurs in the northeastern most part of the study area, where these features suggest a southeast ice advance (Figure 7).

Material Sampling

For this study, modern alluvium was chosen as the primary sampling media as it provides a means of gaining a fast, relatively inexpensive heavy mineral signature for individual drainage basins. The heavy mineral signature obtained from modern alluvium is a product of the erosion of both bedrock and overburden, and the subsequent transportation and deposition of the eroded material. A more detailed discussion of the controls on these processes can be found in Morris and Kaszycki (1997) and Morris et al. (1994).

A private vendor under contract to the Ontario Geological Survey (OGS) carried out the field work and sampling for this survey. Standard OGS sampling methodologies were utilised

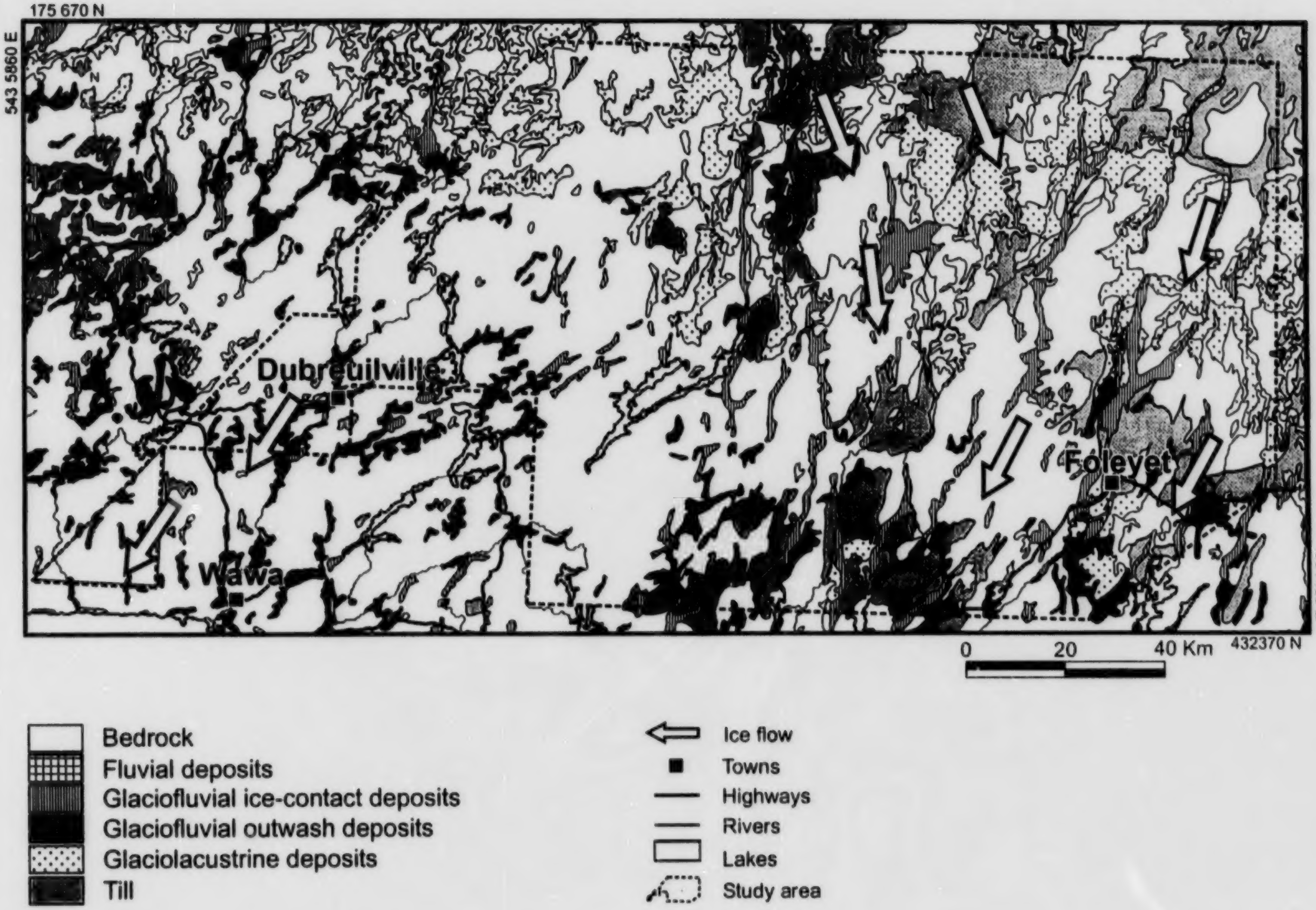


Figure 7. Quarternary geology of the Foleyet study area.

(see Morris and Kaszycki 1997) and OGS staff monitored adherence to these protocols. The samples were processed by Overburden Drilling Management of Nepean, Ontario. All microprobe work on the picked indicator mineral fractions was carried out at the Ontario Geoscience Laboratories in Sudbury, Ontario.

Heavy Mineral Recovery and Identification

A total of 496 samples collected from the Foleyet study area were submitted for heavy mineral concentrate analysis. Samples were processed for gold grain, KIM and MMSIM® content as indicated in Figure 8.

In the lab, the 10 to 18 kg field samples were disaggregated (if needed) and sieved to remove the +10 mesh (+2 mm) size fraction. The entire –10 mesh size fraction was then passed across a shaker table twice to produce a rough heavy mineral concentrate. Samples in which a predetermined number of gold grains were seen during shaker table processing had the heavy mineral (table) concentrate refined by hand or mechanical panning to concentrate all contained gold grains and associated pathfinder minerals. Following panning (if required), the tabled heavy mineral separates underwent a heavy liquid separation. The specific gravity of the heavy liquid used during this procedure is 3.2. Following heavy liquid separation the >3.2 S.G. magnetic minerals were separated using an auto-magnet. The paramagnetic fractions (weakly, moderately, strongly) and non-paramagnetic fractions were isolated using appropriate methodology. The final heavy mineral concentrate (HMC) was sieved to obtain 4 size fractions (<0.25, 0.25 to 0.5, 0.5 to 1.0 and 1.0 to 2.0 mm), each of which were weighed and placed in vials. Indicator mineral picking was then performed on the 0.25 to 0.5, 0.5 to 1.0 and 1.0 to 2.0 mm size fractions (Appendix B). A scanning electron microscope was then used to confirm/check any questionable picked grains and to determine the geochemistry of the grains. Microprobe analysis was then performed on all of the picked kimberlite indicator mineral grains.

Data Plotting Parameters

The proportional dot diagrams in this report illustrate the relative abundance of indicator minerals and their locations throughout the study area. Percentiles were only calculated for statistically reresentative populations of indicator minerals and where relatively few indicator minerals occur the data is plotted on the proportional dot diagram using arbitrary divisions between grain numbers. This can be justified since under these circumstances all grains are anomalous (exceed the 95th percentile).

Tables and appendices for this study area are presented as raw data with normalisation only carried out where picked vs. estimated grain counts apply. The normalised data was used (when applicable) on the proportional dot maps presented herein. This differs form previous reports (Ontario Geological Survey 2001a, 2001b) which report data as both raw and normalised to table weight feed in the appendices. Normalised data was only used on proportional dot maps for the Kapuskasing study area (Ontario Geological Survey 2001a), whereas, raw data was used on proportional dot maps from the Chapleau study area (Ontario Geological Survey 2001b) on the grounds that there wasn't a substantial difference between raw and normalised data sets.

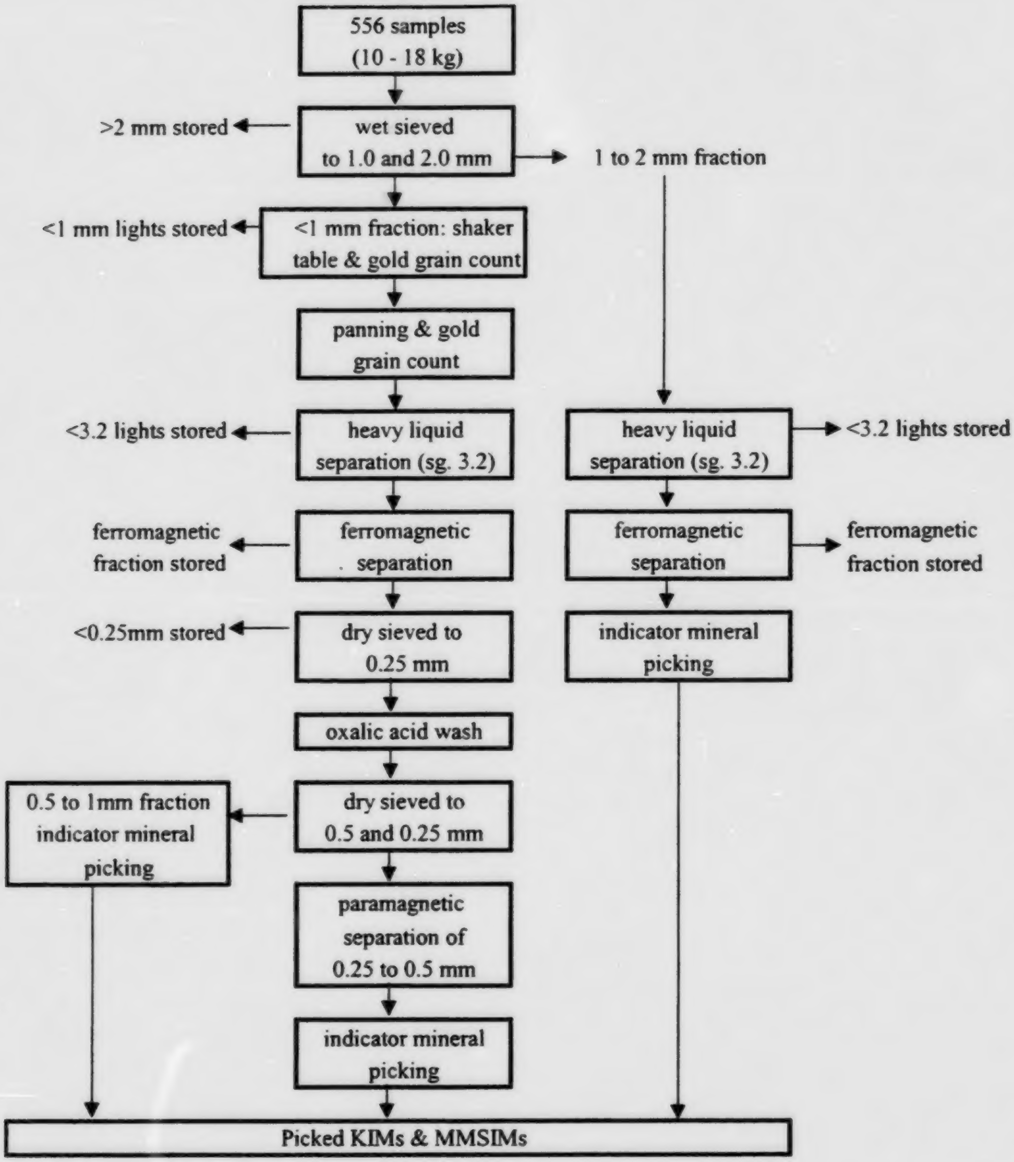

556 samples
(10 - 18 kg)
>2 mm stored
wet sieved to 1.0 and 2.0 mm
1 to 2 mm fraction
<1 mm lights stored
<1 mm fraction: shaker table & gold grain count
panning & gold grain count
<3.2 lights stored
heavy liquid separation (sg. 3.2)
heavy liquid separation (sg. 3.2)
<3.2 lights stored
ferromagnetic fraction stored
ferromagnetic separation
ferromagnetic separation
ferromagnetic fraction stored
<0.25mm stored
dry sieved to 0.25 mm
indicator mineral picking
oxalic acid wash
0.5 to 1mm fraction indicator mineral picking
dry sieved to 0.5 and 0.25 mm
paramagnetic separation of 0.25 to 0.5 mm
indicator mineral picking
Picked KIMs & MMSIMs

Figure 8: Heavy mineral sample processing flow chart (Modified from Averill 1998).

Data for the Foleyet study area are not normalised to table weight feed for the following reasons. First, normalising the data to table weight feed does not in any way compensate for the fact that individual sample sites may have very different particle size distributions. Since KIMs and MMSIMs® tend to be concentrated in the 0.25 to 0.5mm size fraction, it follows that any form of normalisation should take into consideration sample to sample differences on the basis of critical particle size fractions and not table weight feed. However, even such a correction of raw data cannot account for the fact that some sample sites may have undergone a placer effect whereby certain indicator minerals may have been preferentially concentrated. Normalisation is therefore not recommended, except for unusual circumstances where abnormally high numbers of indicator minerals were present and only a select number of grains were picked from an estimated total number of grains (as indicated in the appendices).

It should also be noted that a degree of caution should be exercised when observing anomalous sites on the proportional dot diagrams since samples collected in all study areas were variable in texture. As previously mentioned, the sand size fraction is the most favourable for KIM recovery and samples containing large amounts of finer material do not normally contain many KIMs. However, these samples were included in the calculation of percentiles for determining anomalous values of KIMs in this study. The addition of these samples may have resulted in false anomalies. It is therefore important to place emphasis on a site or cluster of sites that have numerous KIMs and a variety thereof.

Kimberlite Indicator Minerals

Probably the most widely used technique at the early stages of diamond exploration programs is heavy mineral sampling (Fipke et al. 1995). This technique is designed to isolate a unique group of minerals formed at extremely high pressures in an environment that may host diamond. Since these minerals are far more abundant than coexisting diamonds in the mantle environment, exploration programs focus on the recovery of the indicator minerals rather than the diamonds for obvious practical reasons. Fortunately, the key indicator minerals are resistant to weathering and survive extremely well in the secondary environment, even in highly weathered terrains.

The most important indicator minerals are garnet, chromite, ilmenite and to a lesser extent chrome diopside. Olivine may also be an important indicator mineral in immature post-glacial weathering environments such as those found in northern Canadian climates.

The Mantle Sample

It is very important to recognise that kimberlitic magmas and diamonds are petrogenetically unrelated. Kimberlite magmatism represents one of only 2 known types of transportation mechanisms (the other being lamproite) capable of delivering economically viable diamond deposits to the earth's surface. These magmas must form at extreme depths (in excess of 150 km) in order to tap the diamondiferous portions of the sub-cratonic lithosphere.

Diamonds therefore represent foreign xenocrysts that are sampled in the earth's upper mantle and transported and erupted within the kimberlitic magma. Extensive studies of both mineral inclusions within diamonds and diamondiferous xenoliths have revealed 2 major modes of occurrence. These include peridotitic and eclogitic paragenesis (Gurney 1984). The transportation and subsequent disaggregation of these xenoliths during the eruption process is the mechanism by which both the diamonds and associated indicator minerals become liberated from their mantle host rocks.

The recognition that peridotitic diamonds are more common than their eclogitic counterparts at most mine sites (Orapa, Botswana and Argyle, Australia are notable exceptions) provides the reasoning for why the major focus of indicator mineral surveys is on the recovery of the Cr-rich minerals typical of peridotite xenoliths (Gurney 1984). The minerals of particular interest include Cr-pyrope garnet, chromite and Cr-diopside. These minerals coexist with olivine and orthopyroxene in the peridotite assemblage and the variation in modal proportions of clinopyroxene, orthopyroxene and olivine provide the basis for classifying peridotite xenoliths (harzburgite, lherzolite and websterite for example). The two most important types of diamond bearing peridotites include harzburgite and lherzolite.

The recovery of eclogitic garnets in alluvial sampling programs is important, but these minerals tend to be less abundant than their peridotitic counterparts and are more difficult to distinguish from garnets of shallower crustal origin due to similarities in colour. Focus on the recovery of eclogitic garnets can therefore increase the cost of an exploration program since electron microprobe analysis will be required for all garnets that share this similar physical characteristic.

Geochemical Characteristics of Important Kimberlite Indicator Minerals

Garnet

Garnets found in kimberlites can be classified as belonging to 2 major groups. These include the megacryst group (or discrete nodule suite) and foreign xenocysts. The origin of the megacryst or discrete nodule suite is debatable and remains one of the major unresolved problems of kimberlite petrology. However, most mantle petrologists appear to favour a cognate (phenocrystal) high pressure origin over a xenocrystic origin. Regardless of their origin, the megacryst garnets have distinctive compositions (elevated Ti and low to moderate Cr contents) and recovery of these minerals is regarded as a definitive indicator of kimberlite magmatism (Mitchell 1986).

By far the most important garnets associated with kimberlite magmatism are the Cr-rich xenocryst group. These foreign xenocrysts are pieces of dissagregated peridotite xenoliths that have been entrained and brought to surface in the kimberlite magma. They are visually and chemically distinctive having a unique bright purple through lilac colour and a distinctive Cr-rich pyrope composition. These Cr-pyrope garnets are not only useful as kimberlite indicator minerals, but more importantly, as diamond indicator minerals.

Studies of mineral inclusions within diamond (see Gurney 1984 for a review) revealed that the majority (> 85%) of peridotitic garnet inclusions have Ca-poor compositions typical of garnets found in harzburgites. As such, garnet harzburgites are far more important source rocks for diamonds than garnet lherzolites. This is extremely important since it would suggest that the recovery of significant numbers of harzburgitic (Ca-poor) Cr-pyropes from alluvium sampling programs can be used to forecast the diamond potential of a prospective area.

Statistical classification of garnets from kimberlites and associated xenoliths (Dawson and Stephens 1975) demonstrated the existence of 12 separate clusters or groups of compositions identified based on discrete geochemical parameters. The Group 10 garnets (G10) were represented by the majority of diamond inclusion garnets and some other xenolith garnets, although the authors failed to provide a definitive link between these compositions and a harzburgite host. Similarly, the Group 9 garnets (G9) were found to represent the majority of lherzolitic garnet compositions. Exploration geologists now commonly use these terms in a very general sense to identify peridotite garnets that originated from lherzolite (G9) and harzburgite (G10).

The majority of economic diamond bearing diatremes have comparatively large populations of G10 garnets relative to those that are either barren or contain low diamond grades (Gurney 1984, Gurney and Zweistra 1995). Exceptions to this rule include the appropriately named Zero kimberlite pipe in South Africa that is barren yet contains numerous G10 garnets, and the highly productive Argyle lamproite that contains no G10 garnets. The Argyle deposit is dominated by diamonds of eclogitic paragenesis and the recovery of G9 and G10 garnets would therefore be expected to be minimal. However, if the global population of kimberlites and lamproites are taken into consideration, a plethora of examples from numerous continents support the notion that the recovery of statistically representative populations of G10 garnets in alluvial sampling programs is indicative of high potential for diamond recovery.

The eclogitic Cr-poor garnets from diamondiferous eclogites are reported to have compositions that are distinguishable from barren eclogites according to McCandless and Gurney (1989). This study shows a link between elevated Na concentrations in garnets from diamond bearing type I eclogite xenoliths ($Na_2O > 0.07$ wt%) and those with Na depleted compostions in the barren type II eclogite xenoliths ($Na_2O < 0.07$ wt%). The inference here is that the recovery of type I compositions in exploration programs can be as important as the recovery of G10 garnets. However, Grutter and Quadling (1999) provide data that suggests that this approach is far less rigorous than previously believed and potentially misleading. Their data suggests that a threshold of 0.07 wt % Na_2O does not effectively discriminate between graphite and diamond bearing eclogite xenoliths. Furthermore, Shulze (1999) has emphasised the point that diamondiferous kimberlites with high populations of eclogitic diamonds do not necessarily have large populations of accompanying eclogitic garnet xenocrysts. As such, emphasis on the recovery of type I eclogitic garnet xenocrysts should not be emphasized until the late stages of exploration programs.

Garnets recovered from modern alluvium sampling in this study were classified on the basis of a combination of chemical parameters that utilise thresholds for concentrations of Cr_2O_3, TiO_2, Na_2O, FeO, CaO and MnO. The isolation of garnets from peridotites is fairly straight-forward as these minerals typically display elevated concentrations of Cr_2O_3 (> 2 wt %), and can be further subdivided into G9 and G10 classifications on the basis of CaO concentrations. The only exception to this rule is the crustal uvarovite garnets that have very high Cr_2O_3 concentrations but also exhibit elevated CaO concentrations and are easily distinguished on the CaO vs Cr_2O_3 garnet plot. The megacryst garnets typically exhibit Cr_2O_3 concentrations that range from 0 to 4 wt % and are enriched in TiO_2 relative to peridotite garnets. Although compositional overlap does exist between the megacryst and lherzolitic (G9) pyrope garnets, both have equal value in exploration programs since they are indicative of mantle sampling and are therefore useful kimberlite indicator minerals.

Distinguishing the eclogitic garnets from the remainder of crustal compositions is more tedious. Fortunately, Shultze (1999) provided a useful set of guidelines for isolating eclogitic garnets from crustal garnets and Cr-poor megacryst garnets. The most important step in this process is to screen out crustal garnets on the basis of FeO concentration. A value of 21 wt% FeO is the suggested threshold and minerals with FeO concentrations greater that this are not considered to be of eclogitic paragenesis. The reader should be aware that many crustal garnets display FeO < 21 wt%, but these minerals contain either elevated spessartine or grossular components and can therefore be screened on the basis of MnO (typically > 1%) and CaO (typically > 15 wt%). After the eclogitic garnets have been isolated, the classification of group I and group II eclogites and compositional overlap with megacryst garnets can be solved with a reasonable degree of success using a plot of Na_2O vs TiO_2 (Fipke et al. 1995).

A total of 61 mantle derived garnet grains were recovered from the Foleyet study area including: 1 G10 garnet; 54 G9 garnets; 4 megacryst garnets; and 2 eclogitic garnets. Figure 9a shows the distribution of data on the lherzolite/harzburgite discriminant plot including the single G10 garnet composition from sample KAP-0593. The compositions of the megacrystic and eclogitic garnets are shown on Figure 9b. Mantle derived garnets occur throughout the study area (Figure 10) and some of the sample sites are worth highlighting. The G10 garnet was sampled from Lincoln Creek in the southeastern part of the study area in Lemoine Township. The southwest part of the study area has numerous anomalous sites. Sample KAP-1114 (4 G9 garnet, 2 megacryst garnets, and 1 eclogitic garnet) was collected from the Jimmy River in Warpula Township. Sample KAP-1129 (3 G9 garnets) was also collected in Warpula Township from the Makwa River. A total of 4 G9 garnets were recovered from sample KAP-0115 which was collected from the Magpie River at Toolong Rapids (Dunphy Township).

Summary statistics and mineral chemistry for all garnet grains are listed in Appendix C and MRD 83 (Appendix D, Ontario Geological Survey 2001c).

Chromite

Studies of mineral inclusions in diamond have revealed that chromites have distinct compositional characteristics that can be used in exploration programs to gauge the probability that diamond facies mantle rock has been sampled in a prospective area. This distinction is made on the basis of MgO vs. Cr_2O_3 discriminant plots. Fipke et al. (1995) identified 2 clusters of chromites corresponding to diamond inclusion and diamond intergrowth compositional fields. Both of these fields display elevated concentrations of MgO and Cr_2O_3, and the recovery of chromites with these compositional characteristics is considered important with respect to predicting whether diamonds are likely to accompany the recovered indicator minerals. Gurney and Zweistra (1995) suggest that after G10 garnets the "diamond inclusion field" chromites are the next most important indicator mineral.

This may be so, but the real challenge for exploration geologists is to try to classify chromites that do not fall into the diamond inclusion or intergrowth fields. Unlike the garnet peridotite indicator mineral suite, kimberlitic chromites have significant major element compositional overlaps with chromites from other sources. In addition, chromite differs from garnet in that it precipitates as an early forming liquidus phase in most mafic and ultramafic magmas and can be an extremely common heavy mineral component in secondary environment

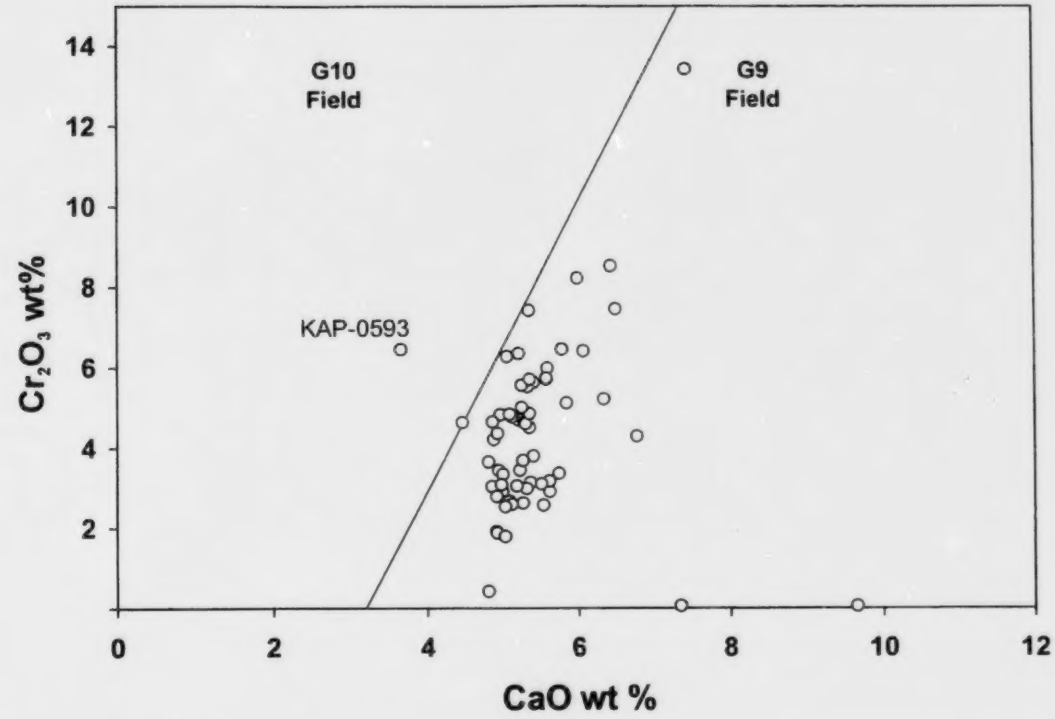


Figure 9a. CaO vs. Cr_2O_3 garnet discriminant plot

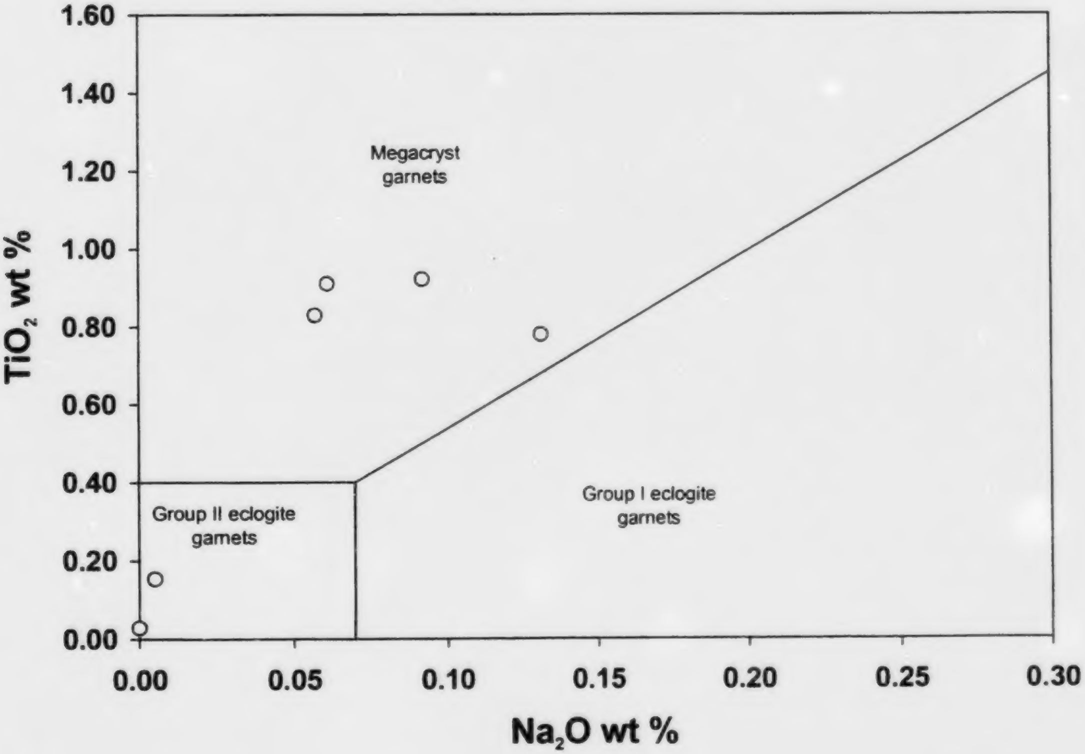
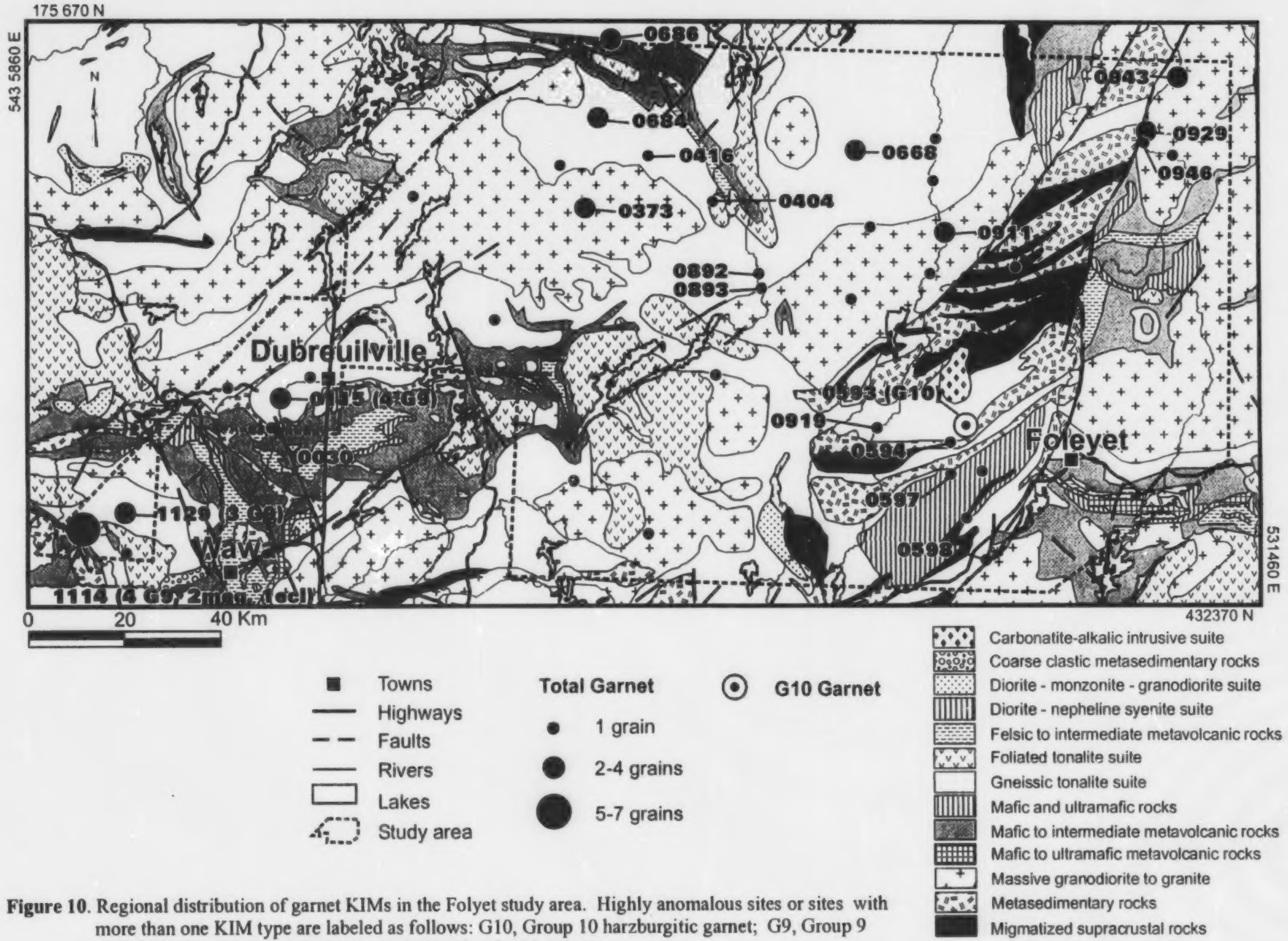


Figure 9b. Na_2O vs. TiO_2 garnet discriminant plot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543 5860 E
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0892
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0593 (G10)
0919
0594
0597
0598
Foleyet
Dubreuilville
0135 (4 G9)
0030
1129 (3 G9)
Wawa
1114 (4 G9, 2meg, 1ecl)
0
20
40 Km
Towns
Highways
Faults
Rivers
Lakes
Study area
Total Garnet
1 grain
2-4 grains
5-7 grains
G10 Garnet
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks

Figure 10. Regional distribution of garnet KIMs in the Folyet study area. Highly anomalous sites or sites with more than one KIM type are labeled as follows: G10, Group 10 harzburgitic garnet; G9, Group 9 lherzolitic garnet; meg, megacrystic garnet; ecl, eclogitic garnet.

sediments. Fipke et al. (1995) proposed that the TiO_2 and Cr_2O_3 concentrations of chromites can be used to isolate kimberlitic and lamproitic chromites from other sources. This approach is a welcome tool since the Ti-rich lower pressure magmatic chromites can be isolated and used as bona fide KIMs in the exploration data set. Unfortunately, the largest population of chromites recovered during modern alluvium surveys is characterised by Ti-poor compositions (likely from a combination of crustal and mantle sources) and these fall in the field of compositional overlap with other sources.

Examination of a large electron microprobe data base for chromite xenocrysts isolated from numerous diatremes in the Lake Timiskaming Structural Zone (LTSZ) and Attawapiskat areas of Ontario (Sage 1996, Sage 2000a, Sage 2000b) suggests that the overlap field reported by Fipke et al. (1995) can be modified to exclude most of the Cr_2O_3 poor and TiO_2 rich compositions (Figure 11). This is because the overwhelming majority of kimberlitic chromite analyses plot along an arc that trends from moderate Cr_2O_3 and depleted TiO_2 compositions through to high Cr_2O_3 and TiO_2 compositions in the field unique to kimberlite and lamproite and only intersects a minor portion of the overlap field. The implication here is that data which plots in the field of compositional overlap should not be included in the KIM data set unless other parameters such as trace element data or textural characteristics can be use to further isolate kimberlitic compositions. Multivariant statistical approaches have been used elsewhere to aid in filtering out non kimberlitic chromites from the exploration database (Griffin et al. 1997), but this requires access to a large data base of chromites from kimberlites and other sources. In this study, only data that plots in the field unique to kimberlite and lamproite are classified as KIMs.

A total of 667 chromites were analysed by electron microprobe from the Foleyet study area. Figure 12a shows the distribution of these data on a MgO vs Cr_2O_3 plot. A single grain (from sample KAP-0916) plots within the diamond intergrowth field. However, this grain is characterised by an elevated concentration of TiO_2 and would therefore not classify as a diamond intergrowth composition (Gurney and Zweistra 1995). Figure 12b illustrates the distribution of the data on the Fipke et al. (1995) TiO_2 vs Cr_2O_3 binary plot. There are a total of 18 analyses from 14 sample sites that plot in the field unique to kimberlite and lamproite. This total increases to 38 KIMs if the data are normalised based on picked versus estimated grain counts for individual samples. The regional distribution of these KIM chromites based on normalised data is shown on the proportional dot map (Figure 13). A total of 10 of these sample sites contain more than one indicator mineral type and samples KAP-0115, 0658, 0916, 0946 and 1100 contain 3 indicator mineral types and are therefore considered important sample sites.

The reader needs to be aware that a somewhat unique compositional cluster of chromites occurs in the Foleyet study area. This data cluster (total of 427 analyses) which is identified in Figure 12a is characterised by high MgO (>13wt%) and low Cr_2O_3 (<42 wt%) concentrations and has compositional similarities to chromites from the Sextant Rapids I5-10 melnoite (Sage 2000b) and other melnoites (Fipke et al. 1995). Similar compositions are also observed in other basic volcanics and layered ultramafic complexes (Fipke et al. 1995) and the cluster is therefore referred to as "possibly" melnoitic. However, the presence of known melnoites northeast of the study area (up-ice) would suggest that these grains are either related to the Moose River basin melnoites or are locally derived. Alternatively, the population may represent a combination of both possible sources. It is also interesting to note that these grains are numerous at almost every sample site where important KIMs are found. The regional distribution of this compositional cluster is shown in Figure 13.

Summary statistics and mineral chemistry for all chromite grains are listed in Appendix C and MRD 83 (Appendix D, Ontario Geological Survey 2001c).

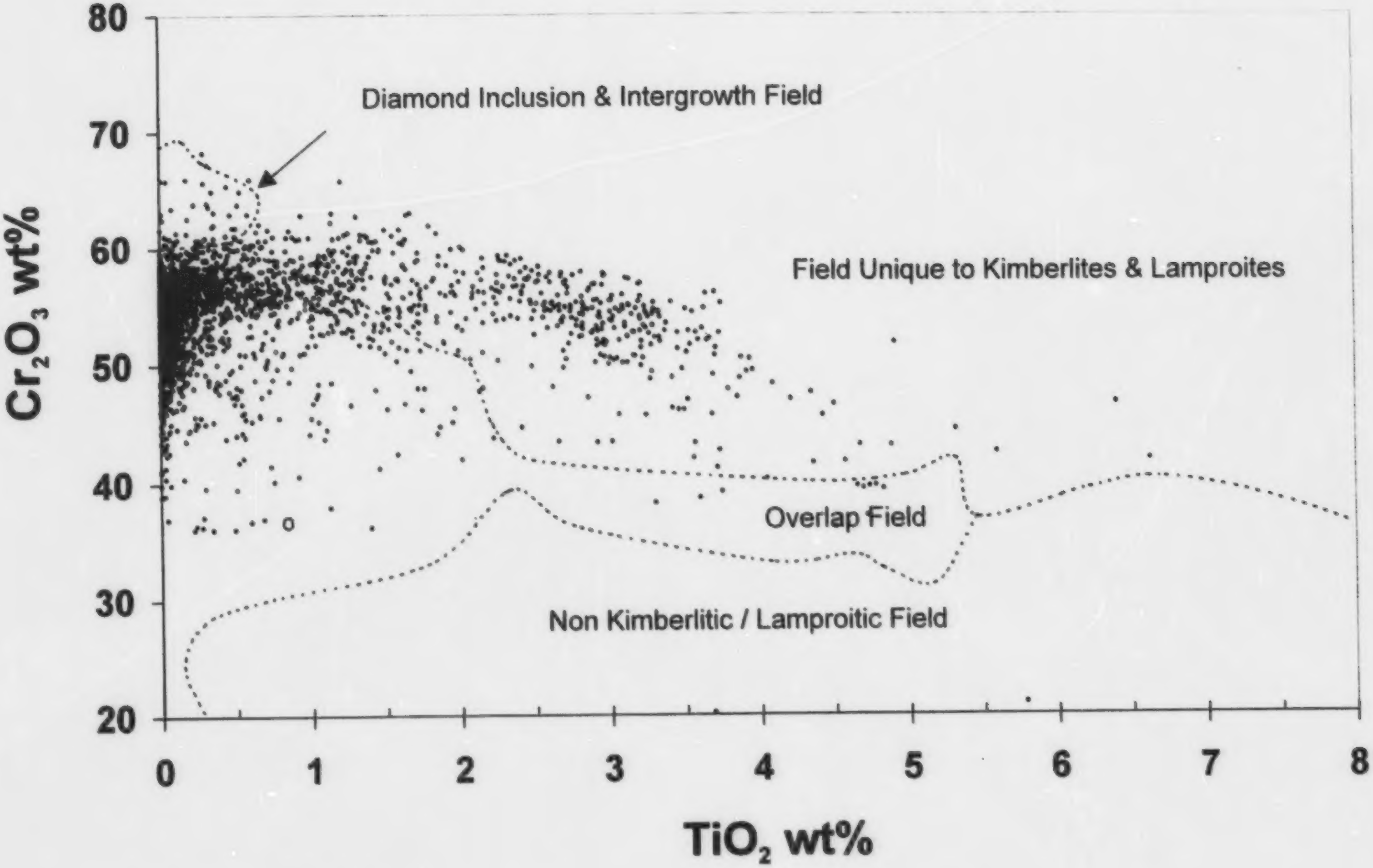


Figure 11. TiO_2 vs. Cr_2O_3 plot for 2220 chromite xenocrysts isolated from Ontario kimberlites

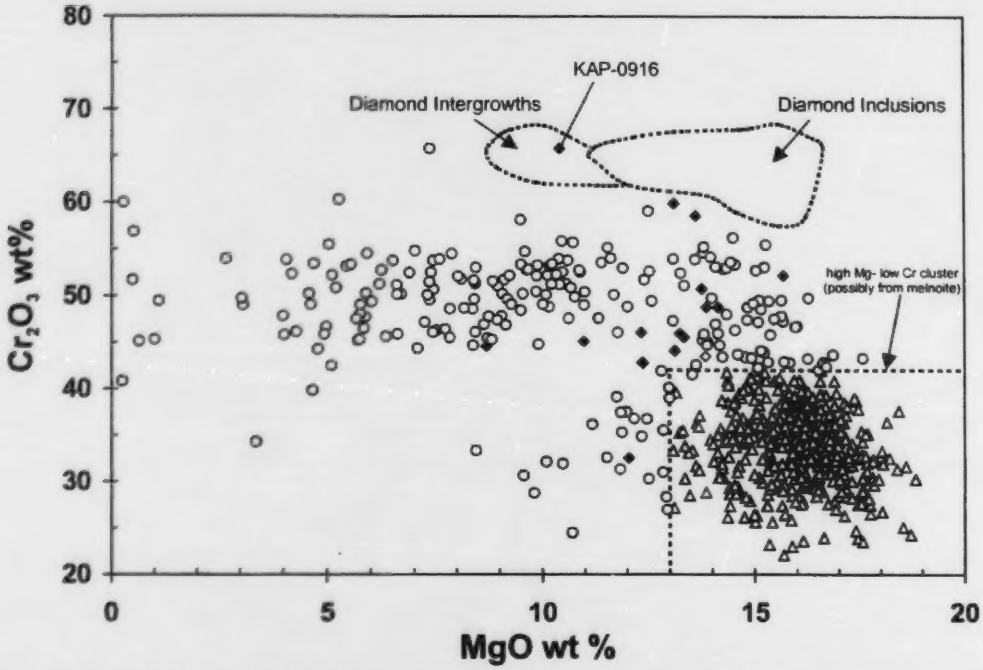


Figure 12a. MgO vs. Cr_2O_3 plot for chromites recovered in the Foleyet study area. The field identified as "possibly" melnoitic is speculative and based on limited published data. The boundaries used to define this field are arbitrary and are not intended to be used as a definitive tool. Symbols are as follows: filled diamonds, KIM chromites; open triangles, possibly melnoitic compositions; open circles, all other Chromites.

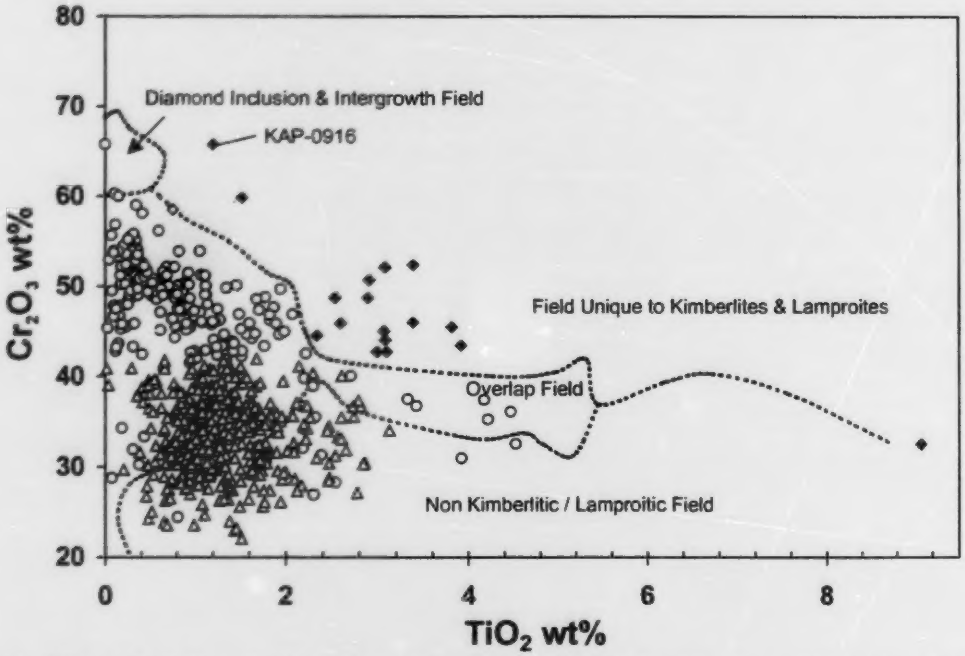
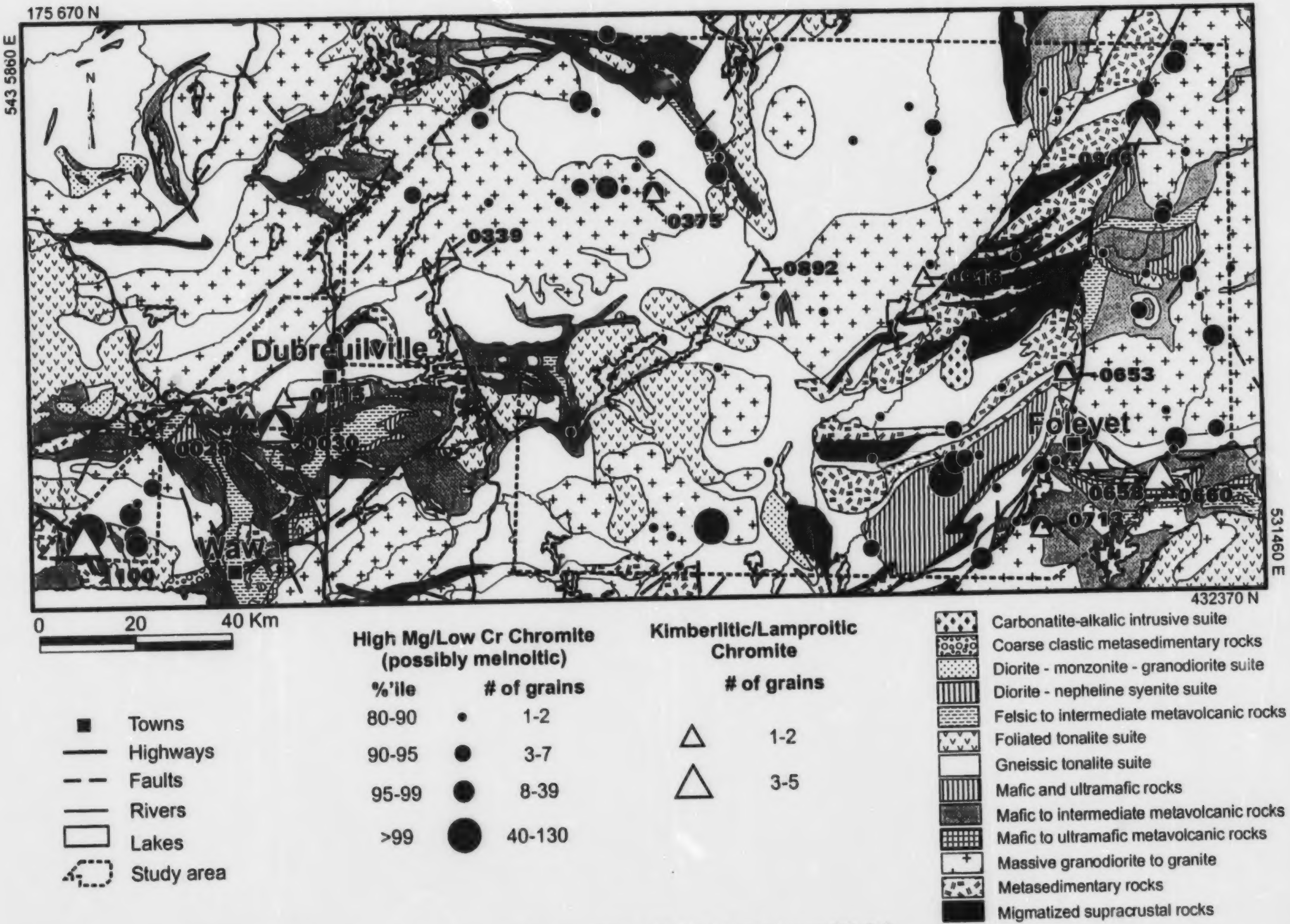


Figure 12b. TiO_2 vs. Cr_2O_3 chromite discriminant plot (Fipke et al. 1995) for chromites recovered from the Foleyet study area. Symbols are the same as for figure 12a.


175 670 N
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0660
0713
1100
432370 N
531460 E
0
20
40 Km
Towns
Highways
Faults
Rivers
Lakes
Study area
High Mg/Low Cr Chromite (possibly meinoitic)
%'ile
# of grains
80-90
1-2
90-95
3-7
95-99
8-39
>99
40-130
Kimberlitic/Lamproitic Chromite
# of grains
1-2
3-5
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks

Figure 13. Regional distribution of chromites in the Foleyet study area. Sites with KIM chromites are labeled.

Mg-Ilmenite

Magnesian ilmenite occurs as a megacryst phase in type I kimberlites (Gurney and Zweistra 1995). Since ilmenite is rare as both an inclusion within diamond and as a component of mantle xenoliths, no genetic link can be made between ilmenites and diamonds. As such, much of the literature on the topic tends to place less importance on the recovery of ilmenite grains relative to garnet or chromite in alluvial sampling programs. This is perhaps an unfair assessment since compositional overlap with crustal sources is far less problematic than with, for example, chromites. Furthermore, the recovery of ilmenites in stream samples has proven to be the key factor in locating the distal (approximately 350 km) down-ice dispersion plume of the Attawapiskat kimberlite field (Kong et al. 1999). The study by Kong et al. (1999) demonstrated that the evaluation of diamond grades of prospective kimberlite occurrences based on garnet and chromite geochemistry is perhaps not always important during the early stages of exploration.

The characteristic composition of megacrystic ilmenite from kimberlites is their generally high MgO content (4 to 16 wt%) and Cr_2O_3 concentrations that range from 0.1 to 11.0 wt% (Mitchell 1986). Ilmenites with MgO values of less that 4 wt% are reported for the Iron Mountain kimberlite in the Colorado-Wyoming kimberlite province (McCallum and Vos 1993), but in general the vast majority of global megacryst occurences can be isolated using a MgO threshold of 4 wt%.

Since the incorporation of the Fe_2O_3 molecule into the ilmenite structure is dependent on the oxygen fugacity (fO_2) in the kimberlitic magma (Hagerty and Tompkins 1983), it has been suggested that ilmenite compositions may be used to predict whether magmatic conditions would have been favourable (reducing) or detrimental (oxidizing) for diamond preservation during kimberlite emplacement. Highly oxidizing conditions are known to promote diamond resorption and studies of a number of kimberlite occurrences (Gurney and Zweistra 1995) show a possible link between stoichiometric Fe_2O_3 concentration and diamond grade. However, the authors note that the technique is qualitative and as such, poorly constrained. Furthermore, there are important examples where the technique does not properly forecast the diamond grade (Mir kimberlite, Siberia) and the use of this technique is not necessary or logical during the early stages of exploration.

Ilmenite compositions are normally projected on an MgO vs. Cr_2O_3 plot in order to screen out compositions that are from crustal sources (MgO < 4 wt%). Exceptions to this rule may be required if Cr_2O_3 rich ilmenites are observed with MgO < 4 wt%. The reader needs to be aware that while this technique is quite effective in isolating crustal ilmenites from the data set, ilmenite also occurs as a megacryst phase in melnoites. Sage (2000b) presents data for the I5-10 melnoite from the Sextant Rapids vicinity, which shows a few ilmenites with MgO and Cr_2O_3 concentrations as high as 10 and 1.25 wt% respectively. The I5-10 data is easily distinguishable from the Attawapiskat kimberlites which display elevated concentrations of Cr_2O_3 (>2wt%) and MgO (>8wt%). However, ilmenites from the LTSZ kimberlites have compositions that are characterised by low Cr_2O_3 (< 2 wt%) and compositional overlap between melnoitic and some kimberlitic ilmenites is inevitable. Ilmenite compositions from the Six-Pak melnoite in Michigan (Sage 2000b) and Callander Bay, Ontario (unpublished data) suggests that the majority of melnoitic ilmenite compositions are characterised by low Cr_2O_3 (<0.5 wt%) and MgO (< 8 wt%). Clearly more ilmenite data from melnoitic samples is required to place definitive compositional constraints on kimberlitic versus melnoitic compositions.

A total of 128 ilmenites from the Foleyet study area were analysed by electron microprobe. Of these, 41 grains were classified as KIMs based on the criteria discussed above. Figure 14 shows the distribution of these data on the MgO vs. Cr_2O_3 binary plot. In addition to screening out crustal compositions this plot can also be used, somewhat crudely, to predict the oxygen fugacity (fO_2) conditions during crystal growth (Gurney and Moore 1991). However, both core and rim analyses of grains are required to properly predict if conditions during mineral growth trended towards oxidising or reducing. As such, any interpretation of oxygen fugacity based on the data acquired here would be somewhat ambiguous. Nevertheless, there are 2 notable populations of Mg-ilmenites that occur in the study area. The first includes a group of 23 grains that are characterised by high MgO (>8 wt%) and elevated Cr_2O_3 concentrations. This group falls along the reducing trend shown in Figure14 and likely consists of megacrystic ilmenites derived from type I kimberlites. The other population is characterised by depleted Cr_2O_3 concentrations and MgO values that range from about 6 to 8 wt%. This population may be derived from melnoites (as suggested by Kong et al. 1999), but similar compositional trends are also observed in the LTSZ kimberlite field, and therefore a kimberlitic origin can not be excluded.

The regional distribution of Mg-ilmenite KIMs is shown in Figure 15. The most anomalous sites include KAP-0658 (4 Mg-ilmenites), 1100 (4 Mg-ilmenites), 0929 (6 Mg-ilmenites) and 0513 (3 Mg-ilmenites). Samples KAP-0658, 1100 and 0929 all coexist with other KIMs and therefore represent important sample sites. Sample KAP-0513 is highly anomalous when the picked data is normalised to estimated grain counts (25 KIMs based on normalised data). A significant cluster of Mg-ilmenite grains also occurs in the north-central part of the study area in the vicinity of Greenhill River/Minnipuka Lake.

Summary statistics and mineral chemistry for all ilmenite grains are listed in Appendix C and MRD 83 (Appendix D, Ontario Geological Survey 2001c).

Cr-Diopside

Cr-diopside is one of the major mineral components of the lherzolite peridotite assemblage. Since lherzolites are not major sources of diamonds (Gurney and Moore 1993) Cr-diopsides can only be considered useful as KIMs and not as diamond indicator minerals. In highly weathered terrains Cr-diopsides do not survive in the secondary environment and are therefore not usually discussed in literature that deals with exploration in warmer tropical climates. However, in immature post-glacial terrains typical of the Canadian shield, Cr-diopsides are relatively stable and the recovery of this mineral can be a very important complement to the KIM suite.

One of the major problems encountered in the southern portion of the KSZ is that Cr-diopsides are, on average, far more abundant than other phases in the heavy mineral fraction. This point is emphasised by the fact that 2651 clinopyroxenes were analysed by electron microprobe as part of this study. The real challenge then becomes deciding on how to isolate Cr-diopsides carried by kimberlites versus other sources.

The use of Cr_2O_3 thresholds to delineate kimberlitic versus non-kimberlitic sources has some merit for high Cr-diopsides but there are many examples from lherzolites that have low to moderate Cr_2O_3 concentrations. This is largely due to the fact that the kosmochlor molecule ($NaCrSi_2O_6$) becomes less soluble in the pyroxene structure at high pressures and experimental work (Vredevoogd and Forbes 1975) suggests that this molecule will not enter the diopside

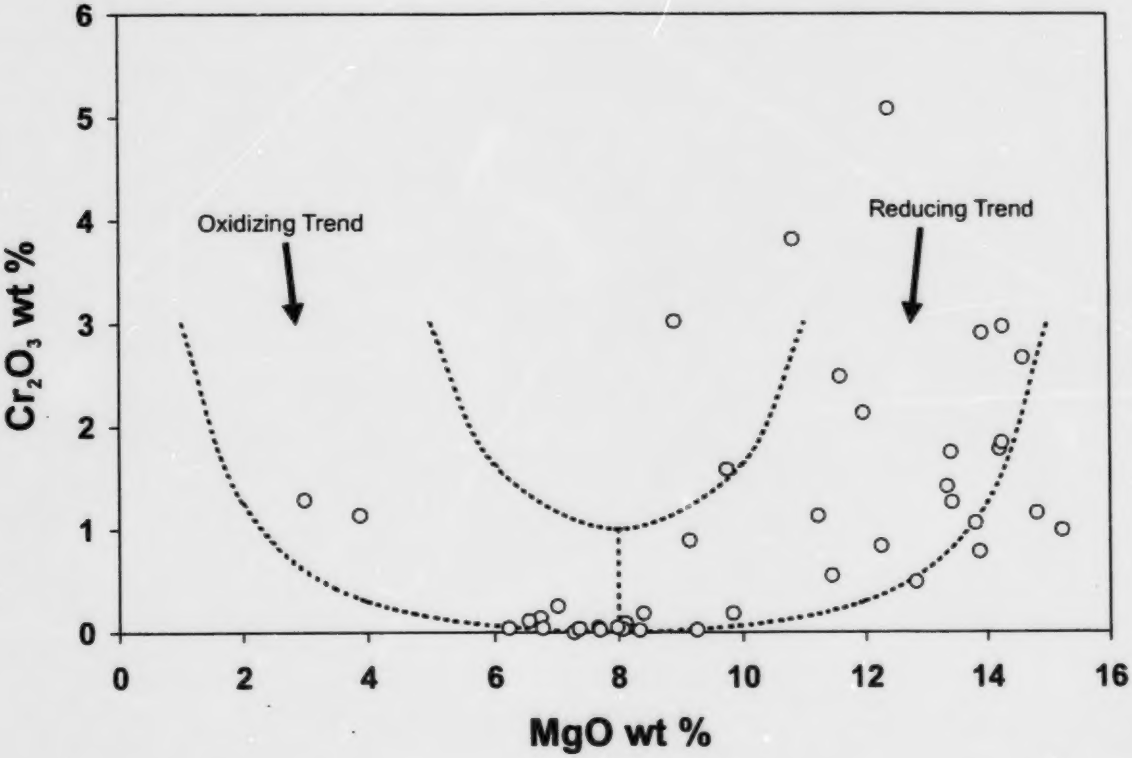


Figure 14. MgO vs. Cr_2O_3 discriminant plot for Mg-ilmenites

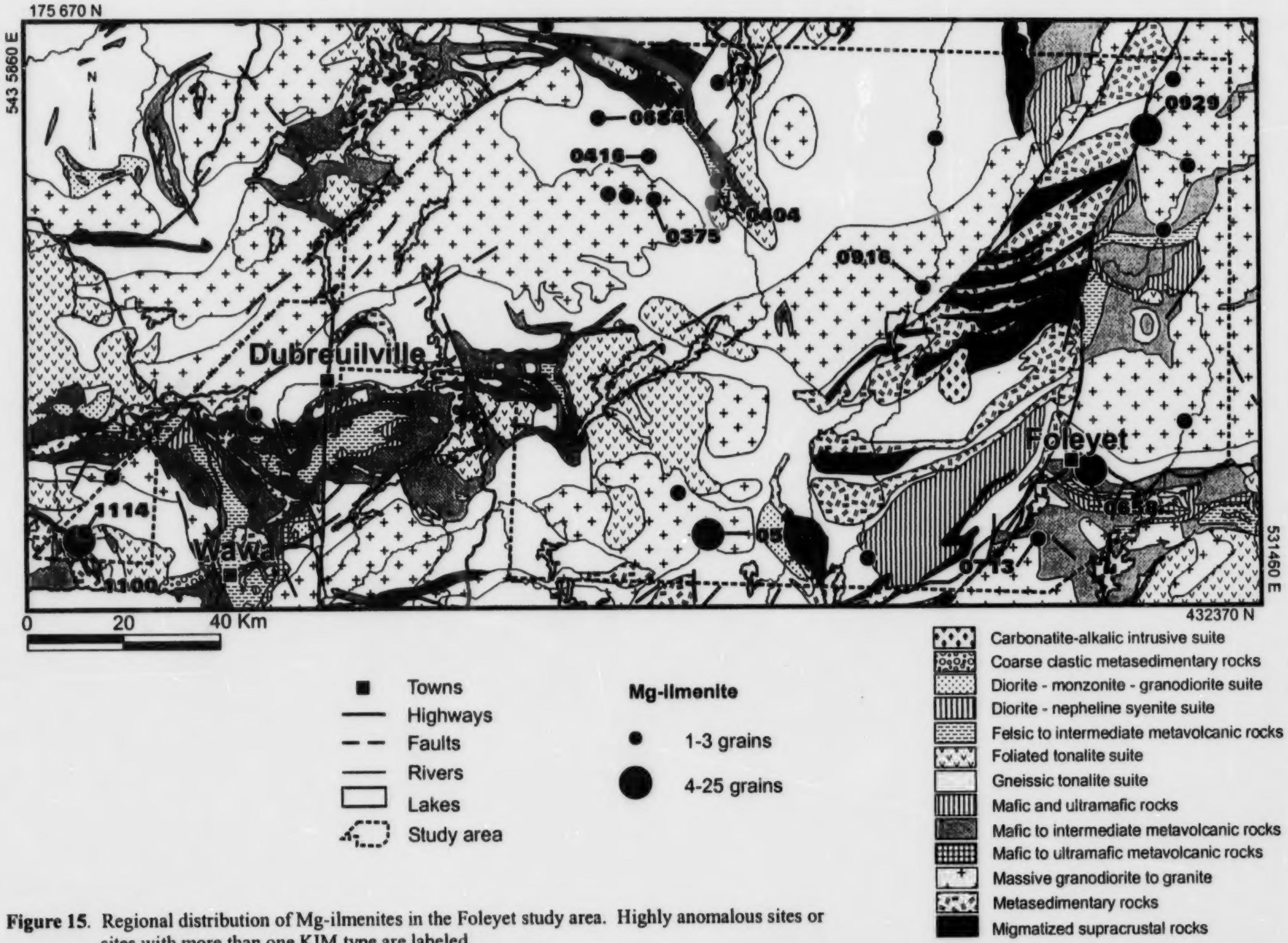

175 670 N
543 5860 E
N
0684
0416
0375
0404
0929
09,16
Dubreuilville
Foleyet
0658
0713
05
1114
1100
Wawa
531460 E
432370 N
0
20
40 Km
Towns
Highways
Faults
Rivers
Lakes
Study area
Mg-ilmenite
1-3 grains
4-25 grains
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks

Figure 15. Regional distribution of Mg-ilmenites in the Foleyet study area. Highly anomalous sites or sites with more than one KIM type are labeled.

structure at pressures in excess of 45 kb (approximately 140 km depth). This is generally supported by the fact that high pressure sheared lherzolite xenoliths are Cr-poor relative to lower pressure granular lherzolites. It is speculated that at such elevated pressures Cr only enters the diopside structure as a Tshermak type molecule.

The common occurrence of high Cr-diopsides in geological environments that are not of high pressure origin has necessitated the use of different discriminants to isolate clinopyroxenes derived from mantle sources. Morris et al. (2000) proposed that the 3 component Al-Na-Cr system (atomic proportions) can be used to delineate a field unique to peridotitic Cr-diopsides sampled by kimberlites. This approach utilises a ternary diagram and the resulting template is based on data compiled from a variety of mantle xenoliths, xenocrysts isolated from kimberlite heavy mineral concentrates and many non-kimberlitic sources. It is clearly an advance from pre-existing methods that utilise Cr_2O_3 thresholds since many Cr-diopsides reported in this study are not mantle derived yet have elevated concentrations of Cr_2O_3 (up to 1.9 wt%).

Projection of the Foleyet study area clinopyroxene data onto the Al-Na-Cr ternary diagram (Figure 16) indicates a number of different populations. A large cluster of Cr-diopsides plot within the field identified as mantle derived compositions. This cluster of compositions is clearly linked to a large population of grains that forms an ovoid on the ternary plot which trends from elevated Al/Na ratios and intersects the template for mantle compositions at lower Al/Na ratios. The total number of grains from this population that plot within the highlighted template is substantial (total of 519) and certainly not in proportion with other KIMs isolated from the same samples. This suggests that the clinopyroxenes isolated from samples collected in the vicinity of the KSZ require special consideration and an additional screening mechanism is warranted.

The Cr-diopside data from the Foleyet study area can be subdivided into at least 4 distinct compositional groups. The most effective way to illustrate these groups is to project the data on a binary plot of atomic Ca/(Ca+Mg) vs. Na_2O wt % (Figure 17). Although somewhat arbitrary and possibly only applicable to this data set, the division of these groups can be made in the following way. Group I clinopyroxenes were identified on the basis of Na_2O concentrations < 0.3 wt %. Group II clinopyroxenes have Na_2O concentrations > 0.3 wt % and Ca/(Ca+Mg) ratios < 0.45. Group III clinopyroxenes have Na_2O concentrations > 0.3 wt % and Ca/(Ca+Mg) ratios that range between 0.45 to 0.5. Group IV clinopyroxenes are characterised by Na_2O concentrations > 0.3 wt % and Ca/(Ca+Mg) ratios > 0.5.

The choice of Na_2O as a variable on this diagram is important since there is a correlation between pressure and the amount of Na that can enter the clinopyroxene structure in the form of the jadeite molecule ($NaAlSi_2O_6$). To demonstrate the importance of Na_2O as a discriminant, Cr-diopsides from both peridotite xenoliths carried in kimberlites (globally occurring) and xenocrysts from the Attawapiskat kimberlite field have been plotted on the Ca/(Ca+Mg) vs Na_2O binary plot (Figure 18). This plot shows a definitive range of Ca/(Ca+Mg) ratios and Na_2O concentrations that can be used to place further constraints on mantle derived clinopyroxene compositions.

Stephens and Dawson (1977) used a statistical approach to classify the various types of clinopyroxenes found in kimberlites including: xenolithic; megacrystic; and magmatic (only in type II kimberlites or orangeites) phases. The largest cluster they isolated was characterised by Cr-diopsides originating from spinel and garnet lherzolites. This group displays a range of Ca/(Ca+Mg) ratios (0.4 to 0.52) which corresponds well with the range defined in Figure 18. The Ca/(Ca+Mg) axis has an added benefit since it represents the Mg-Ca axis on the pyroxene ternary

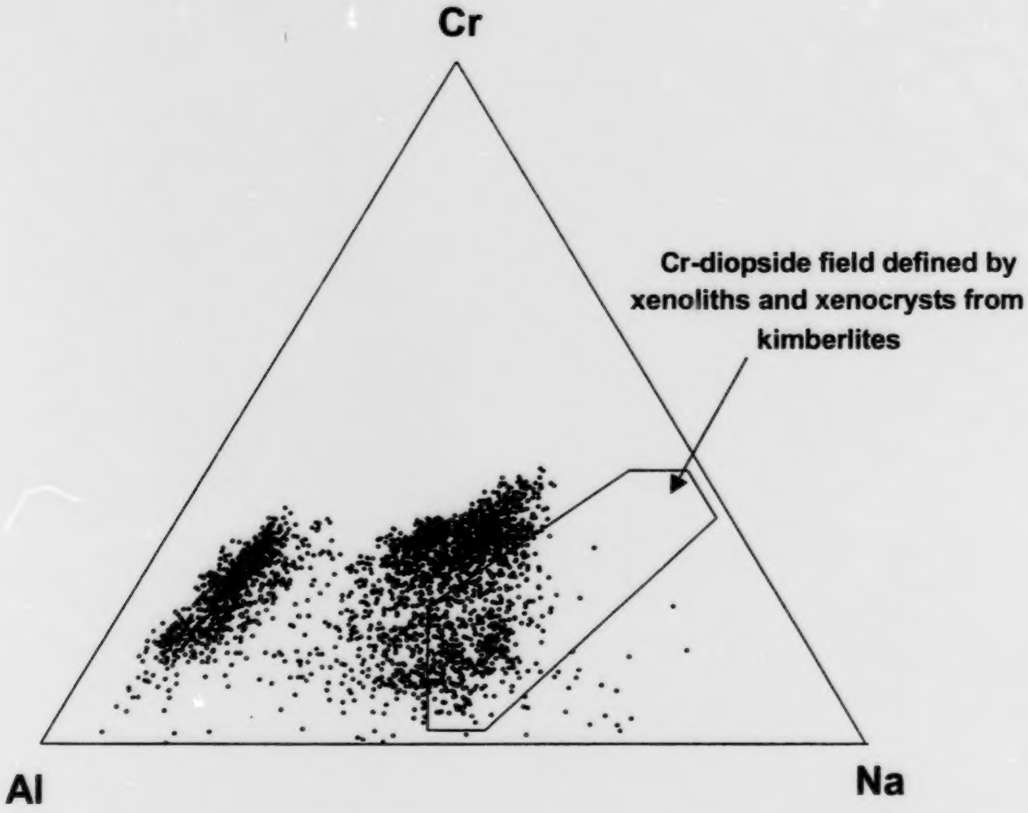


Figure 16. Al-Na-Cr (atomic) clinopyroxene ternary diagram for samples from the Foleyet study area (after Morris et al. 2000)

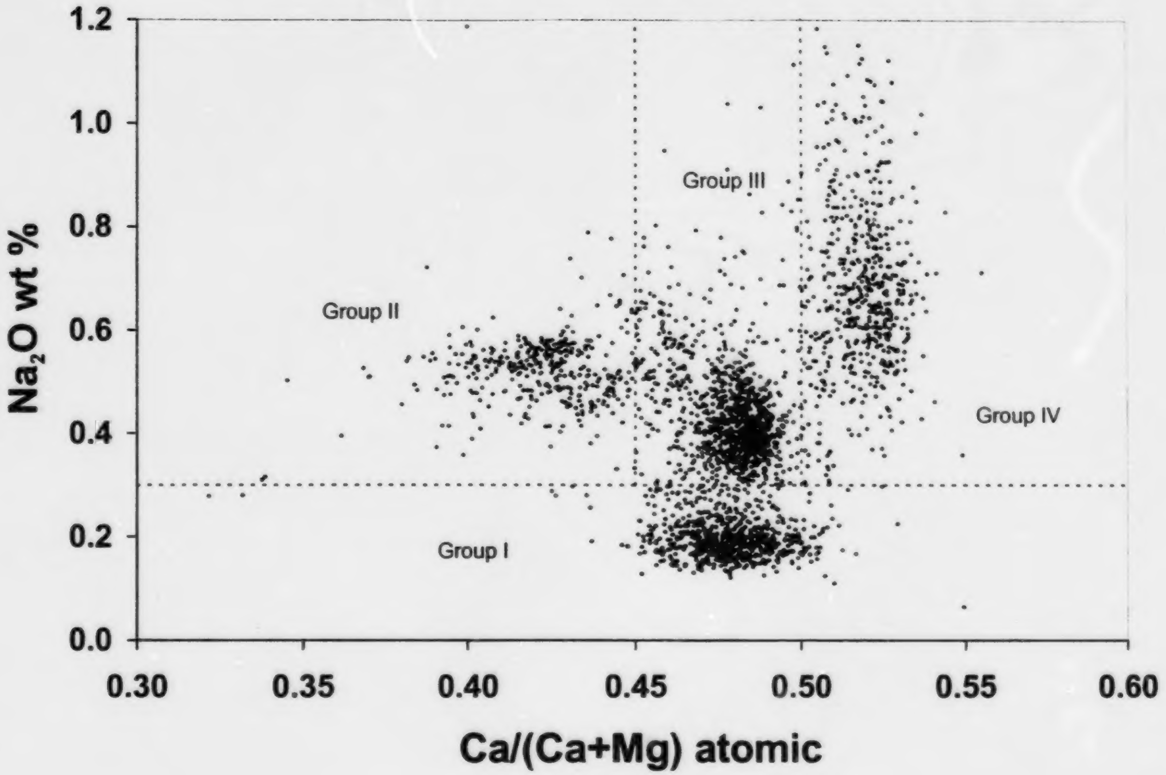


Figure 17. Ca/(Ca+Mg) vs. Na_2O plot for clinopyroxenes from the Foleyet study area. Compositional divisions for the data are somewhat arbitrary and only applies to this database.

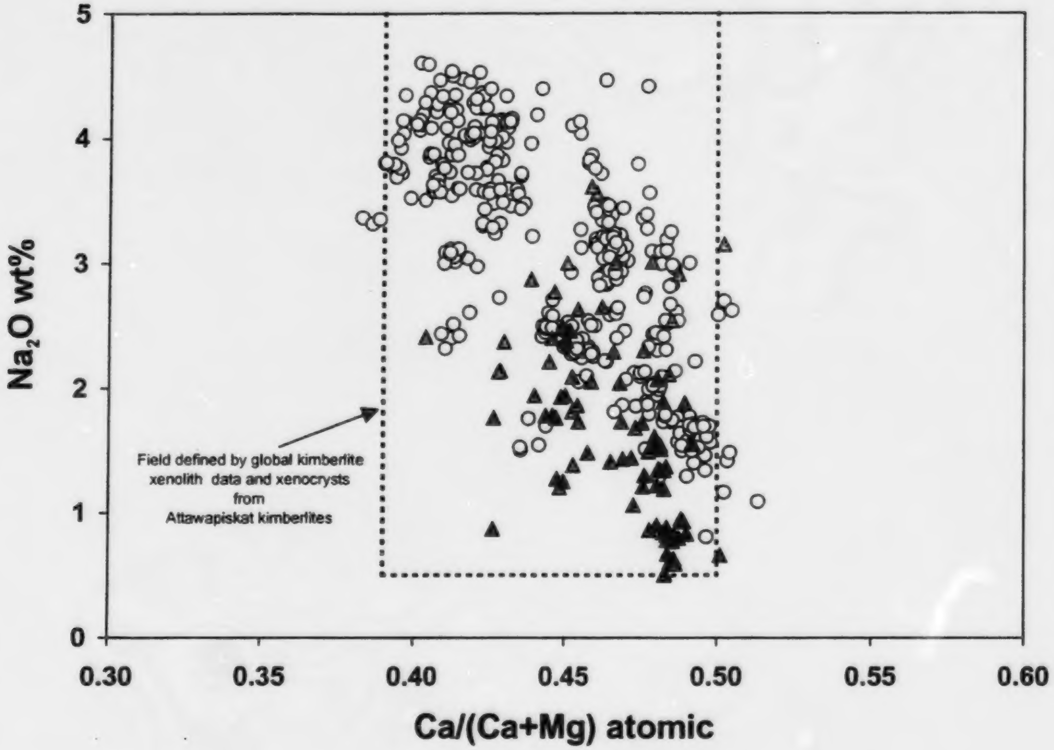


Figure 18. Ca/(Ca+Mg) vs. Na_2O binary plot for lherzolite xenoliths from kimberlites (global) and xenocrysts from Attawapiskat kimberlites. The compositional field outlined here is based on available data and may be subject to modification. Symbols are as follows: shaded triangles; Cr-diopside from globally occurring mantle xenoliths in kimberlite; open circles, xenocrysts from Attawapiskat kimberlites.

classification scheme (Morimoto et al. 1988). As such, atomic Ca/(Ca+Mg) ratios can be used to discriminate diopside (Ca/(Ca+Mg) = 0.4 to 0.5) from augite (Ca/(Ca+Mg) < 0.4).

If the 519 analyses that plot in the compositional field for mantle derived Cr-diopside on the Al-Na-Cr ternary plot (Figure 17) are recast onto the Ca/(Ca+Mg) vs. Na_2O binary plot, it is apparent that only a few of the grains have compositional characteristics similar to Cr-diopsides found in subcratonic mantle xenoliths. In fact, the 24 grains isolated here (Figure 19) represent a somewhat liberal estimate of mantle type Cr-diopside compositions since most of these analyses are represented by Na_20 poor compositions that are not typical of the xenocryst population isolated from, for example, the Attawapiskat kimberlites.

The majority of the 519 analyses isolated on the atomic Al-Na-Cr ternary plot are from groups III and IV. The group IV clinopyroxenes have the widest range and most elevated concentrations of Na_2O and it is speculated here that this group probably represents a high pressure assemblage. It is interesting to note that the group IV pyroxenes do not classify as Cr-diopsides using the scheme of Morimoto et al. (1988) since the Ca/(Ca+Mg) ratios for this group is > 0.5.

The use of 2 discrimination techniques is clearly warranted for the Cr bearing clinopyroxenes found in modern alluvium from the Foleyet study area. The 24 Cr-diopsides identified here as having mantle type geochemical signatures are distributed throughout the study area (Figure 20) although there are some notable trends. The majority of the grains occur in the eastern part of the study area, both in the vicinity of the Chapleau block and east of the Ivanhoe Lake fault in the Abitibi subprovince. A cluster also occurs in the north central part of the study area in the Greenhill River/Minnipuka Lake area. There are a few locations where KIM Cr-diopsides were isolated from samples collected relatively close together. These include samples KAP-0644 and 0654 collected close to the town of Foleyet and samples KAP-0794, 0795 and 0796 that were collected on the Ivanhoe River in Belford Township. Sample sites KAP-0115 (Magpie River, Dunphy Township) and KAP-0946 (Groundhog River, Hicks Township) are important sites since the Cr-diopsides are found in conjunction with 2 other types of KIMs. Other sites where mantle type Cr-diopsides coexist with other KIMs include KAP-0594, 0596, 0660, 0644 and 0919 (Figure 20).

The regional distribution of the large number of Cr bearing clinopyroxenes that do not classify as sub-cratonic mantle type Cr-diopsides is discussed below in the component of the report that deals with MMSIMs®. Summary statistics and mineral chemistry for all clinopyroxene grains are listed in Appendix C and MRD 83 (Appendix D, Ontario Geological Survey 2001c).

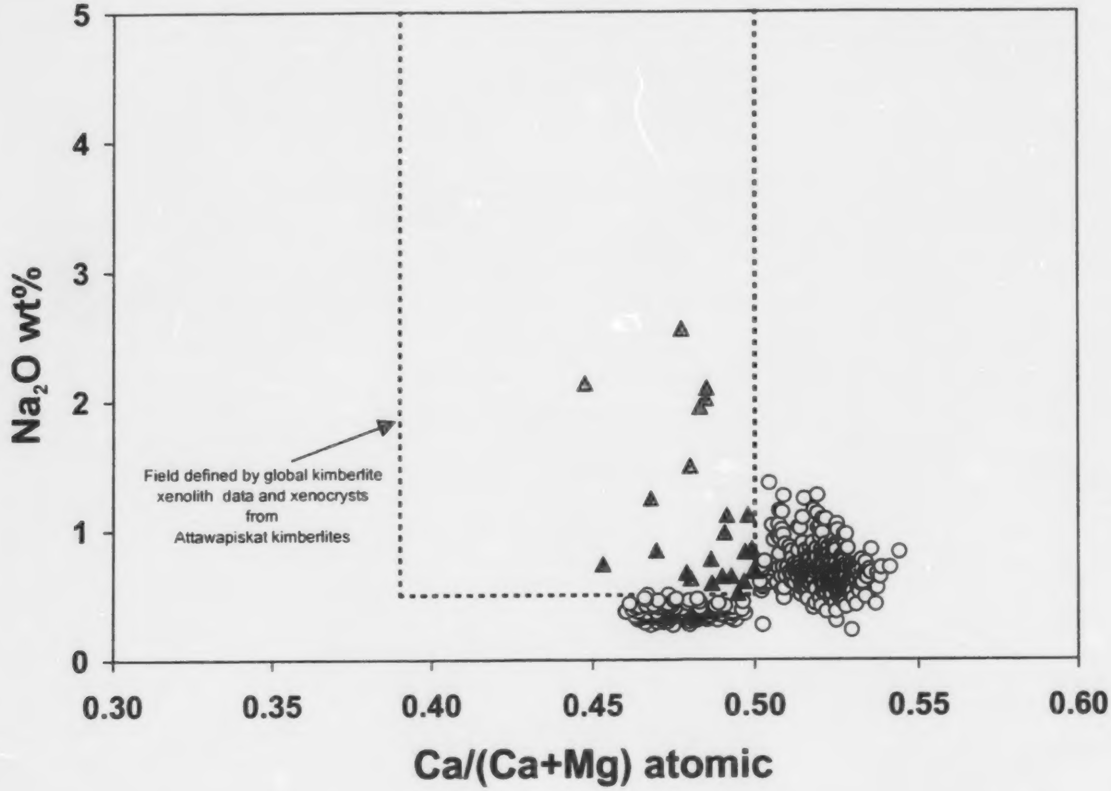


Figure 19. Ca/(Ca+Mg) vs. Na_2O classification scheme for clinopyroxenes from the Foleyet study area that plot within the field defined by mantle xenoliths and xenocrysts on the Al-Na-Cr ternary diagram (Figure 16). The triangles represent grains that have compositional similarities to the data presented in Figure 18.

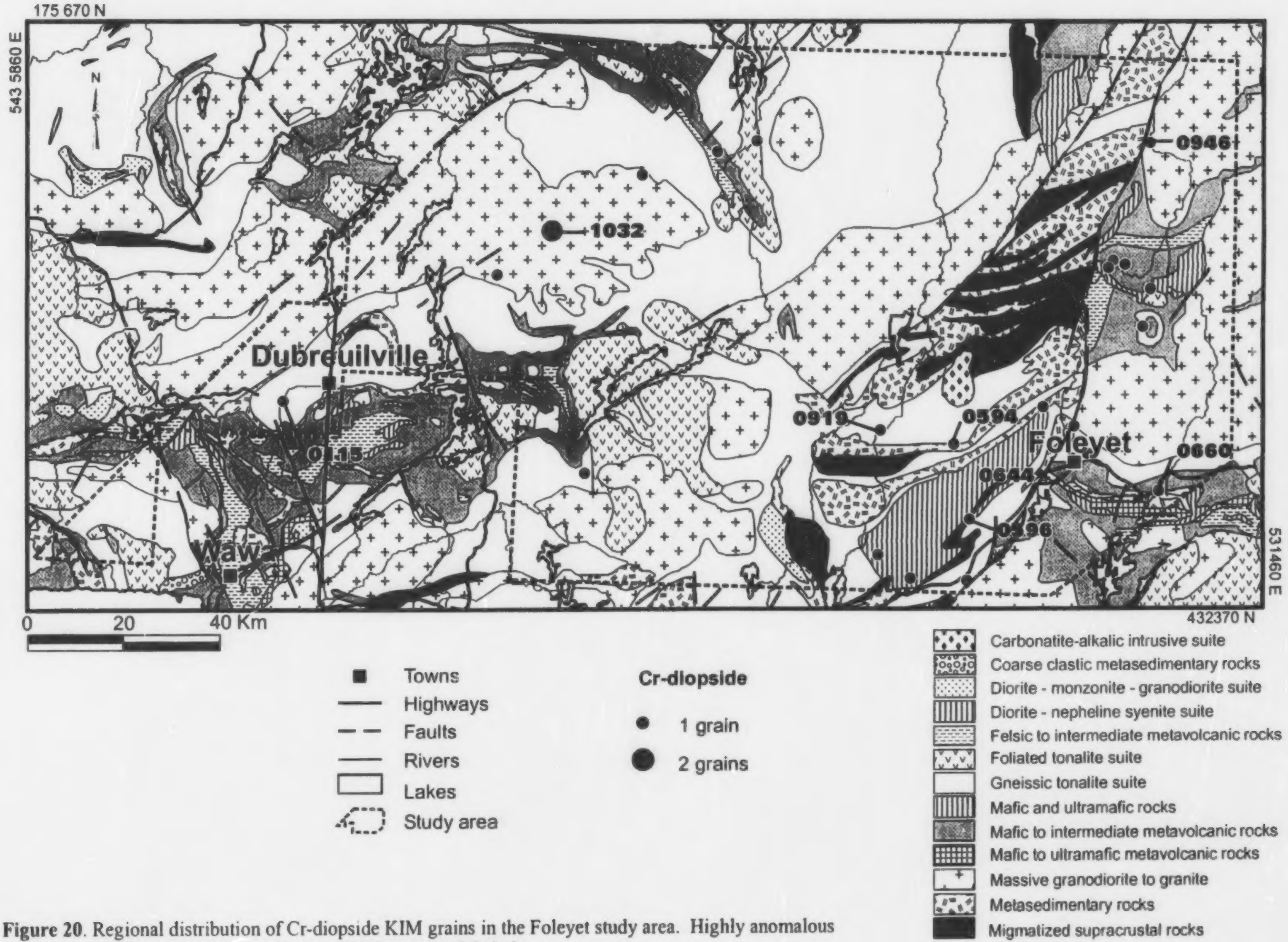

175 670 N
543 5860 E
N
1032
0946
Dubreuilville
0115
Waw
0919
0594
Foleyet
0660
0644
0496
531460 E
432370 N
0
20
40 Km
Towns
Highways
Faults
Rivers
Lakes
Study area
Cr-diopside
1 grain
2 grains
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks

Figure 20. Regional distribution of Cr-diopside KIM grains in the Foleyet study area. Highly anomalous site or sites with more than one KIM type are labeled.

Olivine

Olivine occurs as both a megacryst (cognate) and phenocryst phase in kimberlites. In addition, olivine is also a common component in mantle peridotite xenoliths and as such it is expected that olivine will also occur as a xenocryst phase in kimberlites. The identification of each of these types of olivine is not critically important during exploration. What is important is that olivines from non-kimberlitic sources be isolated and removed from the KIM database. The recovery of olivine in modern alluvium samples is indicative that the weathering regime in a prospective area is immature. In mature weathering environments olivine readily breaks down to form secondary minerals such as goethite and smectite (Nahon et al. 1982; Crabtree 1989).

Olivine has been isolated from samples collected in the KSZ during previous studies (Morris et al. 1994, Morris et al. 1997a, Morris et al. 1998a, and Stephenson et al. 1999). Substantial numbers of olivine grains were also recovered from the vicinity of the Killala Lake igneous complex northeast of Terrace Bay (Morris et al. 2000). The collective results of these projects demonstrated the need for a geochemical discriminative technique capable of isolating olivines derived at high pressures from those found in shallower crustal type environments. Morris et al. (2000) utilised a binary discriminant system ((Mg/Mg+Fe) vs. SiO_2 wt%) that is capable of isolating olivine compositions from kimberlitic and other mafic rocks, although compositional overlap is substantial. In an attempt to improve on this technique a system is presented here that utilises a large database of olivine compositions isolated from numerous kimberlitic heavy mineral concentrates from Ontario (unpublished data).

Examination of minor element concentrations from 951 olivine grains picked from the Ontario kimberlite concentrates suggests that additional constraints may be placed on mantle type olivine compositions crytallized at high pressures. Figure 21 illustrates the distribution of the olivine data when plotted on a binary plot of forsterite content (Fo#) vs. CaO wt%. The kimberlitic compositions are characterised by depleted CaO concentrations when compared, for example, to olivines isolated from Abitibi komatiites (unpublished data). This is likely due to a combination of pressure (Finnerty 1986) and also the effects of magmatic cooling rates. Partition coefficient data suggests that given enough time, incompatible elements will diffuse out of the olivine structure. Rapidly cooling supracrustal lavas will likely favour the incorporation of incompatible elements in the olivine structure and this would therefore be expected in the Abitibi komatiites. The komatiite data also displays elevated concentrations of Al_2O_3, TiO_2 and Cr_2O_3 relative to those found in kimberlites. The use of both the Fo# and incompatible element concentration appears to be an improvement over previous methods. However, it should be noted that olivines of similar composition to those found in kimberlites do occur in layered mafic complexes such as the Kigplait anorthosite intrusion, Labrador (Morse 1996). Although this approach in an improvement on previous methods the reader needs to be aware that compositional overlap between high pressure olivines and those crystallized at lower pressures is therefore inevitable if all of the above factors are taken into consideration.

A total of 67 olivines were isolated from samples collected in the study area. Of these, 50 grains from 10 sample sites have compositions that are similar to those found in kimberlitic olivine xenocrysts (Figure 22). The regional distribution of olivines with KIM signatures occurs primarily in the southeast part of the study area (Figure 23) with a few occurring in the central and southwest parts of the study area. Sample KAP-0587 represents an extremely anomalous site with all 36 picked grains (the value of 66 grains on the proportional dot diagram represents estimated vs. picked grains) falling on the high Fo# boundary of the kimberlitic compositional

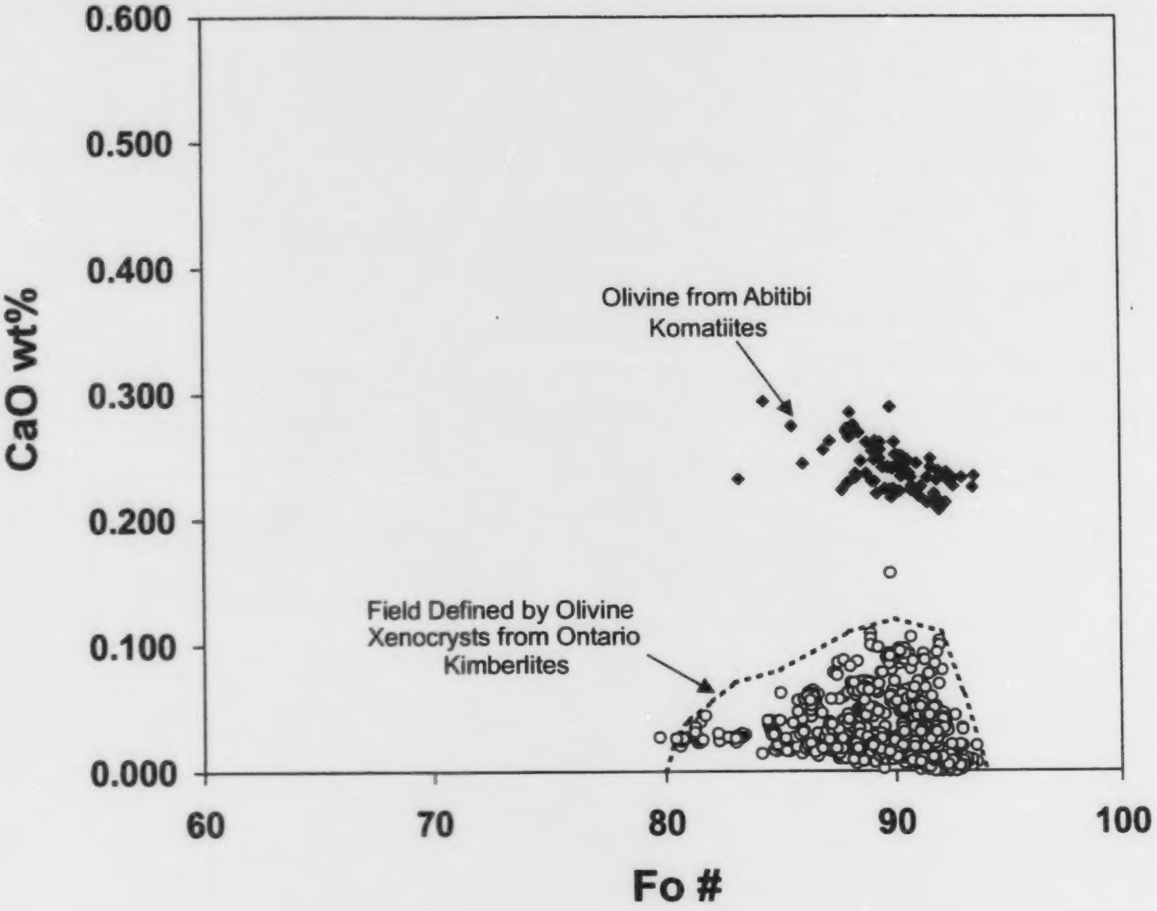


Figure 21. Fo# vs. CaO plot for olivines isolated from numerous kimberlitic heavy mineral concentrates from Ontario kimberlites. The data from Abitibi komatiites has been included to demonstrate the compositional differences between olivines crystallized at low and high pressures. Compositional overlap between mantle derived olivines and those from layered igneous complexes can be expected. Symbols are as follows: open circles, olivine xenocrysts from Ontario kimberlitic heavy mineral Concentrates; filled diamonds, olivines from Abitibi komatiites.

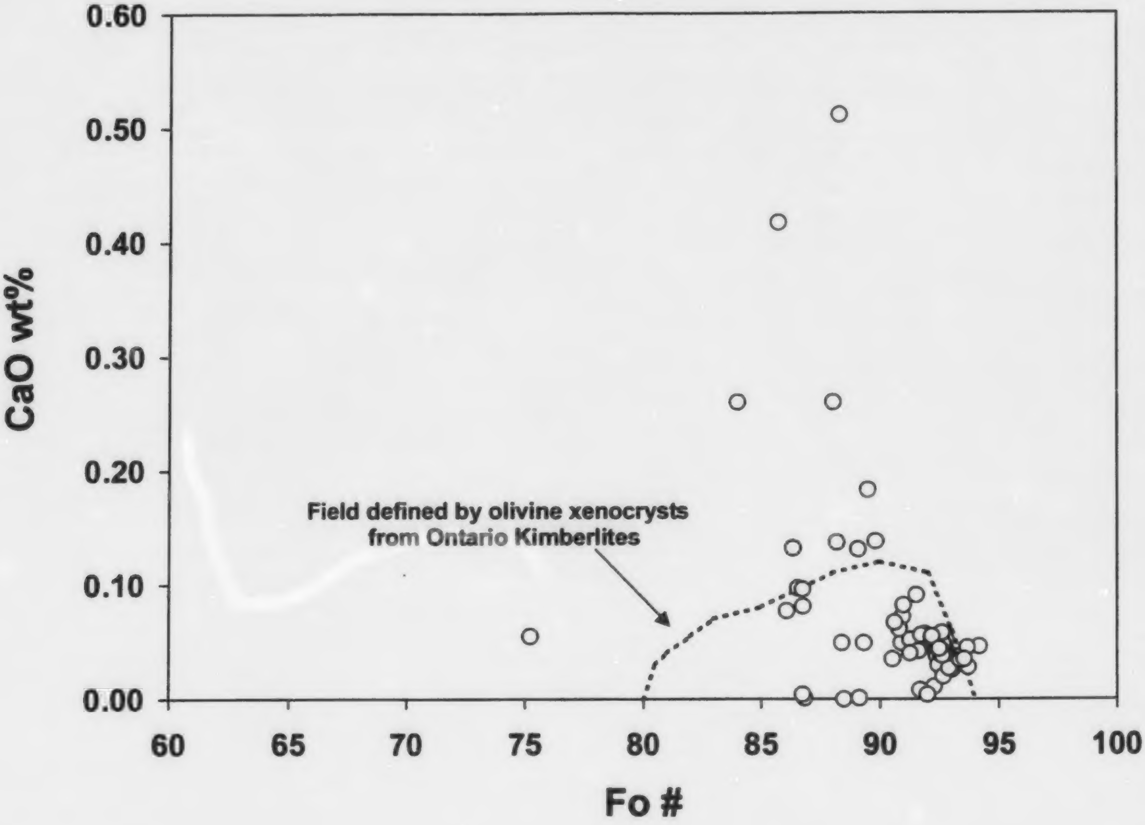
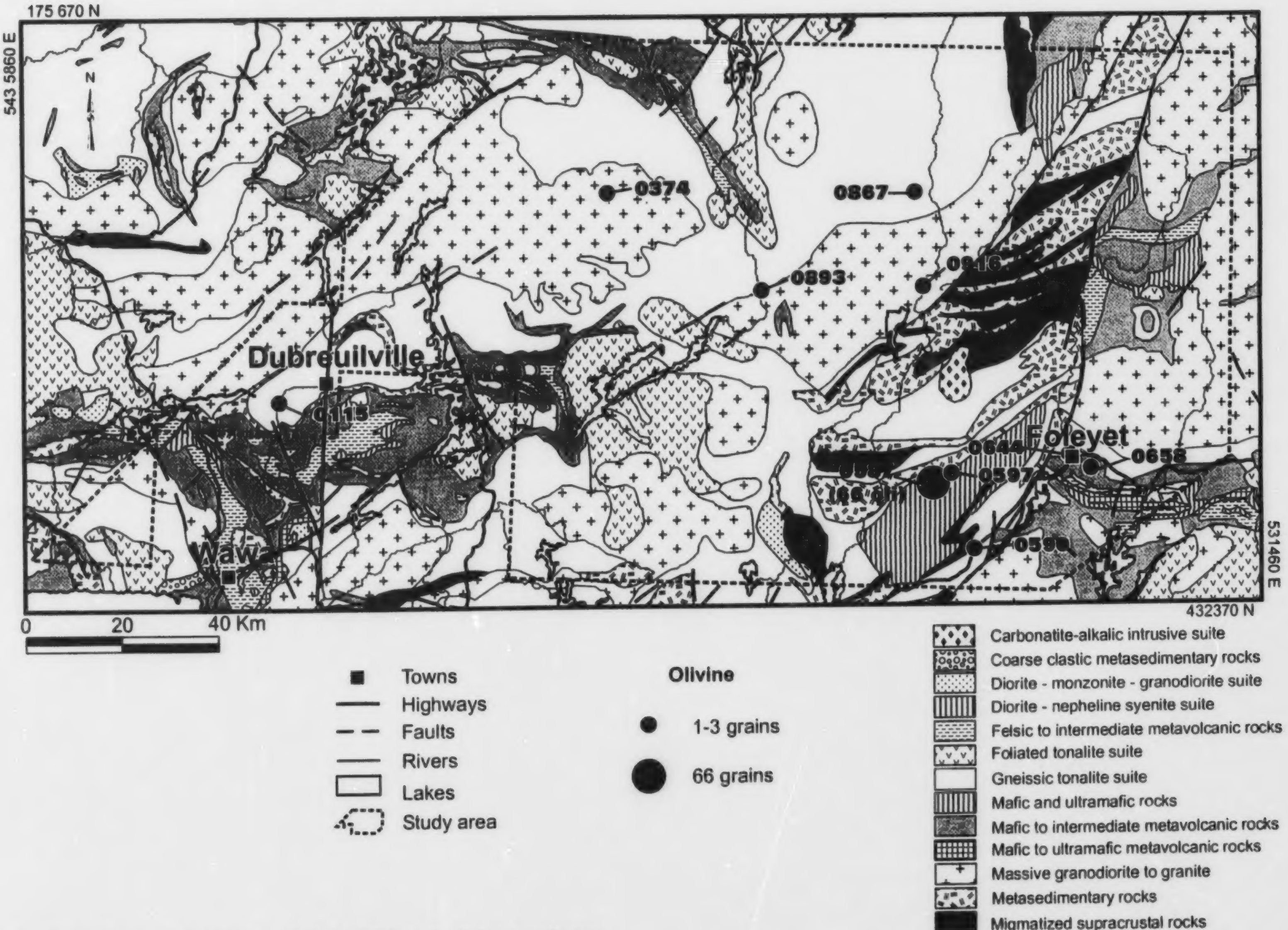


Figure 22. Fo# vs. CaO plot for olivines recovered from the Foleyet study area


175 670 N
543 5860 E
531460 E
432370 N
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0597
0658
0598
Dubreuilville
Foleyet
Wawa
0
20
40 Km
■ Towns
Highways
Faults
Rivers
Lakes
Study area
Olivine
1-3 grains
66 grains
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks

Figure 23. Regional distribution of olivine KIMs in the Foleyet study area.

field. This sample was collected over the Shawmere anorthosite and it is very likely that these olivines originated from a mafic-ultramafic assemblage related to the complex. It is suggested here that particular attention be paid to the presence of known mafic igneous complexes in prospective areas. Emphasis should be placed on olivines recovered in areas where these types of complexes are not known to exist.

It is interesting to note that of the 9 other sample sites containing olivine KIMs, 7 sites are characterised by more than one type of KIM. Of these sample KAP-0115 (Magpie River, Dunphy Township) is the most anomalous with a total of 4 KIM types present.

Summary statistics and mineral chemistry for all clinopyroxene grains are listed in Appendix C and MRD 83 (Appendix D, Ontario Geological Survey 2001c).

Recommendations for Kimberlite Exploration

Examination of the composition and distribution of kimberlite indicator minerals in the Foleyet study area has identified several areas containing anomalous numbers of KIMs (Table 1). The exploration targets within the study area (Figure 24) are based on sample sites containing a combination of significant KIMs such as G10 garnets, G9 garnets, Mg-ilmenites, chromites, Cr-diopsides and olivine. Sample sites with single mineral anomalies should be considered with caution unless these occur in the vicinity of other anomalous sites.

There are numerous areas highlighted in Figure 24 and Table 1 that contain anomalous sample sites. These include: Shawmere (area 1); Foleyet (area 2); Griffin Lake (area 3); Greenhill River/Minnipuka Lake (area 4); Dubreuilville (area 5); Mishibishu Lake (area 6); and Peterbell (area 7). The G10 garnet (KAP-0593) was recovered from Lincoln Creek (Lemoine Township) area and this site is located in reasonable proximity to other sites that contain more than one type of KIM (Shawmere – area 1). However, it should be noted that other anomalous sites in this area contain relatively few numbers of grains and indicator mineral types (KAP-0587 is an exception with 66 olivines). Sample KAP-0115 contains the largest variety of KIMs (Dubreuilville – area 5).

It is suggested here that the information provided in Table 1 be used as a starting point for planning exploration activities. Consideration should also be given to the Quaternary geology in the suggested areas since proximity to source can be strongly influenced by the nature of the glacial materials that are prevalent in a particular area. Another important factor to consider is the structural geology in the vicinity of the identified area as kimberlites are known to intrude regions with complex cross cutting faults. Finally, the reader should make use of available geophysical data such as the Kapuskasing-Chapleau aeromagnetic survey (Natural Resources Canada 2001). This study was flown with flight line spacings of 200 m and covers much of the Foleyet study area.

Table 1. Summary table of samples containing the most significant numbers and types of KIMs in the Foleyet study area. Numbers in parentheses represents data that has been normalised on the basis of picked versus estimated grain counts

Sample KAP-	Easting	Northing	garnet	chromite	ilmenite	pyroxene	olivine	KIM types	Total KIMs
Shawmere (area 1)									
0593	371050	5351464	**1(G10)**	0	0	0	0	1	1
0594	367873	5347907	1	0	0	1	0	2	2
0596	371163	5332226	1	0	0	1	0	2	2
0597	367951	5341235	1	0	0	0	1	2	2
0587	364075	5339176	0	0	0	0	36(66)	1	36(66)
Foleyet (area 2)									
0658	396871	5342098	0	2(4)	4	0	3	3	9(11)
0644	392378	5344962	0	0	0	1	2	2	3
0660	410551	5338009	0	2(4)	0	1	0	2	3(5)
Griffin Lake (area 3)									
0946	408604	5410549	1	1(3)	0	1	0	3	3(5)
0916	362187	5380269	0	1	1	0	3	3	5
0929	409000	5412993	2	0	6	0	0	2	8
0919	352541	5350864	1	0	0	1	0	2	2
0928	414845	5423512	0	0	3	0	0	1	3
Greenhill River/Minnipuka Lake (area 4)									
0684	294607	5415519	3	0	1	0	0	2	4
0404	318408	5397914	1	0	1	0	0	2	2
0416	305037	5407562	1	0	1	0	0	2	2
0374	296587	5399821	0	0	1	0	1	2	2
0375	306158	5398700	0	1(2)	1	0	0	2	2(3)
Dubreuilville (area 5)									
0115	228384	5357062	4	1	0	1	1	4	7
0030	226534	5351047	1	2(5)	0	0	0	2	3(5)
Mishibishu Lake (area 6)									
1100	186259	5328314	1	1(5)	4	0	0	3	6(10)
1114	187419	5330088	7	0	1	0	0	2	8
1129	196078	5333420	3	0	0	0	0	1	3
Peterbell (area 7)									
0892	327946	5382705	1	1(5)	0	0	0	2	2(6)
0893	328471	5379680	1	0	0	0	1	2	2
Individual Anomalous Sites									
0513	316742	5328880	0	0	3(25)	0	0	1	3(25)

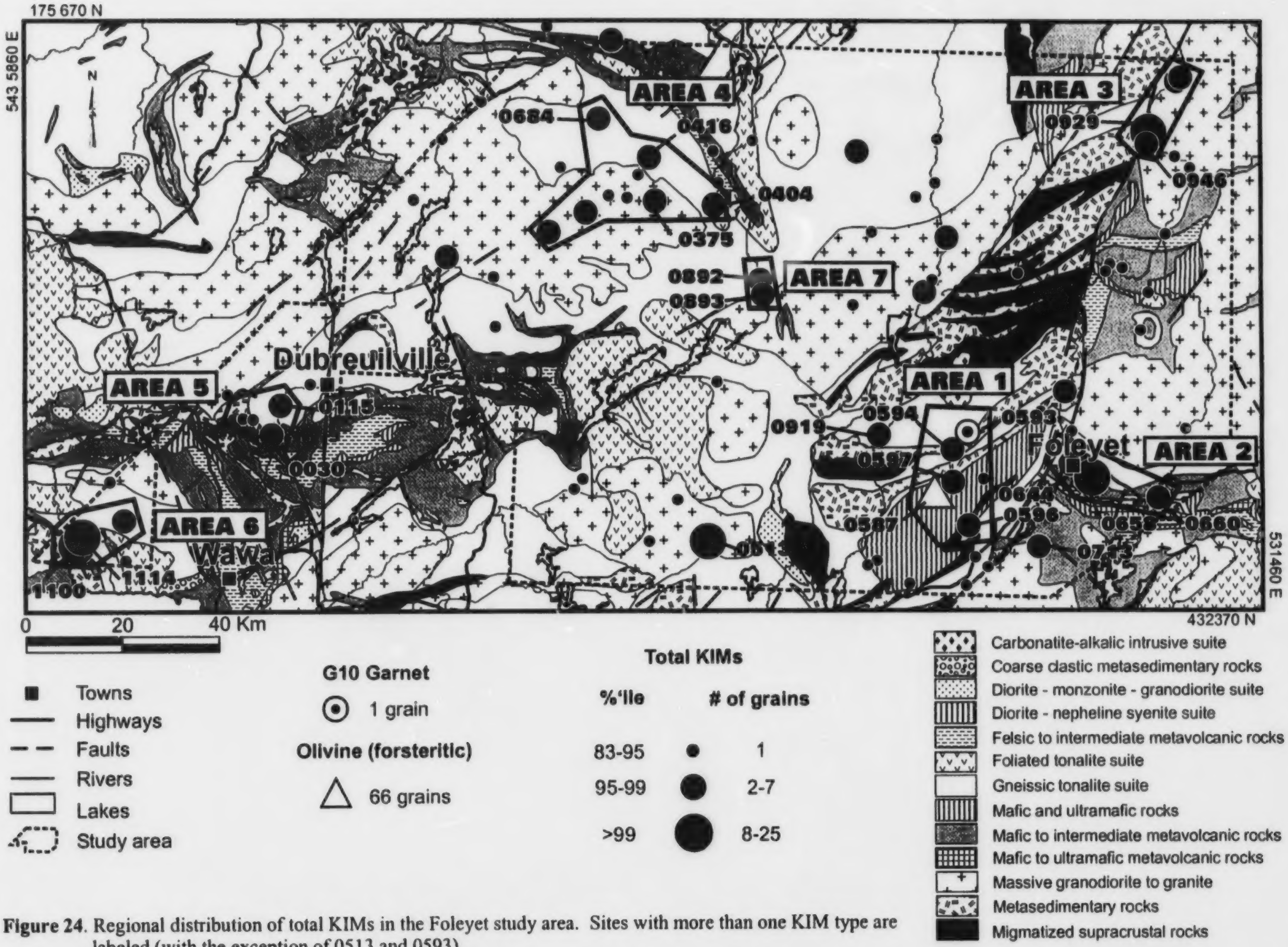


Figure 24. Regional distribution of total KIMs in the Foleyet study area. Sites with more than one KIM type are labeled (with the exception of 0513 and 0593)

Metamorphic/Magmatic Massive Sulphide Indicator Minerals

Metamorphic/magmatic massive sulphide indicator minerals (MMSIMs®) are stable heavy minerals that occur in alteration zones associated with volcanogenic massive sulphide deposits in high grade terrains, in magmatic Ni-Cu sulphide deposits and in skarn and greisen deposits (Averill 1999).

The heavy mineral assemblages associated with each of these deposit types are listed in Table 2. The MMSIM® indicator mineral system has been developed on the basis of extensive experience in processing surficial materials associated with known base metal deposits. The recognition that anomalous concentrations of certain groups or pairs of minerals associated with these deposits can occur in secondary environment sediments provides the basis for utilising the MMSIM® system.

Common mineral associations in VMS type dispersion trains are gahnite-barite, chalcopyrite-spessartine (or Mn epidote), gahnite-chalcopyrite-staurolite (or anthophyllite) and red rutile-spinel-kyanite (or sillimanite). Gahnite is probably the most important MMSIM® since it is enriched in the ore metal (Zn) and is extremely stable in the secondary environment. Other MMSIMs® associated with VMS deposits include kyanite, sillimanite, staurolite and orthopyroxene. However, these minerals are also common in high grade metamorphic terrains, and therefore less emphasis should be placed on their recovery in the Foleyet study area.

Magmatic Ni-Cu indicator minerals are characterised by distinctive Cr rich phases such as Cr-diopside, chromite, uvarovite, Cr-rutile, and aluminous phases such as Hercynite. Averill (1999) suggests that these phases are produced as a result of the separation of Ni-Cu-Fe-S liquids from ultramafic magmas which results in the subsequent enrichment of Mg, Fe, Cr, Al and Si in the residual melt. Other phases associated with these deposits include chalcopyrite, forsteritic olivine, Mg-orthopyroxene, Ni and Pt arsenides and PGE alloys.

One of the major challenges in dealing with this somewhat complex group of minerals is that many of these phases occur as common components in non-mineralized rocks. Averill (1999) suggests that olivine, orthopyroxene and chromite occurrences in alluvial samples should only be emphasised if other more diagnostic indicator minerals are present. This can also be extended to Cr-diopsides which are by far the most common minerals recovered from the Foleyet study area.

Ideally, emphasis should be placed on the recovery of the ore phases themselves. However, sulphides are not particularly stable in the secondary environment although chalcopyrite and to a lesser degree sphalerite are nominally stable in post glacial terrains. It would seem logical, therefore, to highlight these occurrences together with more stable ore enriched phases such as gahnites whenever they occur.

Table 2. Indicator minerals commonly associated with base metal mineralization (after Averill 1999). Shaded areas indicate an association between mineral and type of deposit.

Indicator Mineral	VMS	Magmatic Ni-Cu	Skarn	Greisen	Other occurrence
Sillimanite	▨				Hi grade met.
Kyanite	▨				Hi grade met.
Corundum	▨				Hi grade met.
Anthopyllite	▨				Hi grade met.
Mg-spinel	▨				Hi grade met.
Sapharine	▨				Hi grade met.
Staurolite	▨				Hi grade met.
Dumortierite	▨				
Mn-epidote	▨				
Spessartine	▨				metavolcanics
Gahnite	▨				
Franklinite	▨				
Willemite	▨				
Barite	▨				
Cinnabar	▨				
Loellingite	▨				
Native Au	▨		▨		
Orthopyroxene	▨	▨			Hi grade met.
Cr-rutile	▨	▨			
Chalcopyrite	▨	▨	▨	▨	
Tourmaline	▨			▨	
Olivine (Forst)		▨	▨		Mafic igneous
Hercynite		▨			
Low-Cr diopside		▨			Mafic Igneous
Chromite		▨			Mafic Igneous
Uvarovite		▨			
Loellingite		▨			
Rammelsbergite		▨			
Sperrylite		▨			
PGE alloys		▨			
Olivine (kneb)			▨		
Vesuvianite			▨		
Johannsenite			▨		
Grossular			▨		
Scheelite			▨		
Topaz				▨	
Fluorite				▨	
Cassiterite				▨	
Wolframite				▨	

Gahnite

The importance of gahnite grains recovered from modern alluvium samples cannot be overstated. Gahnites are useful simply because they serve as an indicator for Zn mineralization and are stable in oxidizing surficial environments (Morris et al. 1997b). There are essentially 3 modes of occurrence for gahnite. These include VMS (polymetallic), REE pegmatites and peraluminous granites. Compositional differences between gahnites from these various environments makes it possible to classify the mode of occurrence using electron microprobe data. Gahnites from polymettalic deposits exhibit MgO concentrations that are typically > 2 wt%, whereas those from REE pegmatites and peraluminous granites tend to have MgO concentrations that are < 2 wt% (Dunlop 2000, Morris et al. 1997b). It should be noted, however, that compositional overlap between these groups does exist. The data shows that of the 47 gahnites probed as part of this study, 28 have MgO concentrations >2 wt %. The data shows a trend from high MgO down to depleted MgO concentrations with the only notable break in the trend occurring at about 1.5 wt% MgO. Furthermore, sample KAP-0111 contains gahnites from both high and low MgO populations. Therefore, placing a great deal of emphasis on the various compositional types during the early stages of broad regional surveys is probably not warranted.

Figure 25 illustrates the regional distribution of both gahnites and chalcopyrites recovered in the Foleyet study area. It is interesting to note that most of the anomalous sample sites occur in the same areas highlighted as part of the KIM survey (Griffin Lake, Foleyet, Shawmere, Dubreuilville and Mishibishu Lake). The most anomalous gahnite sample (6 grains from KAP-0513) was collected in Mageau Township in the southcentral part of the study area.

Summary statistics and mineral chemistry for all gahnite grains recovered from the Foleyet study area are listed in Appendix E and MRD 83 (Appendix F, Ontario Geological Survey 2001c).

Cr-Diopside

Averill (1999) has suggested that low Cr-diopsides are an important indicator mineral for magmatic Ni-Cu minerilzation with 2 notable examples of this association occurring at Thompson, Manitoba and Outokumpu, Finland. In the Foleyet study area, Cr-poor diopsides are by far the most common component in the heavy mineral separates. This raises the issue of whether this population represents a major down ice dispersion pattern from a large igneous complex or if in fact these minerals are from proximal sources. In Figure 17 a total of 4 distinguishable populations of clinopyroxenes are identified for the Foleyet study area. If the regional distribution of the different groups of pyroxenes is considered (Figure 26) it is apparent that the most anomalous sites for each group occur in a somewhat unique area suggesting a local source. It is not clear which of these groups (if any) are linked to magmatic Ni-Cu mineralization. Caution is therefore warranted against placing too much emphasis on the recovery of these types of minerals unless a known compositional trait can be used to target prospective areas. Clearly, further detailed studies of Cr-diopside compositions from known Ni-Cu deposits are required to help improve the use of this mineral as a viable MMSIM®.

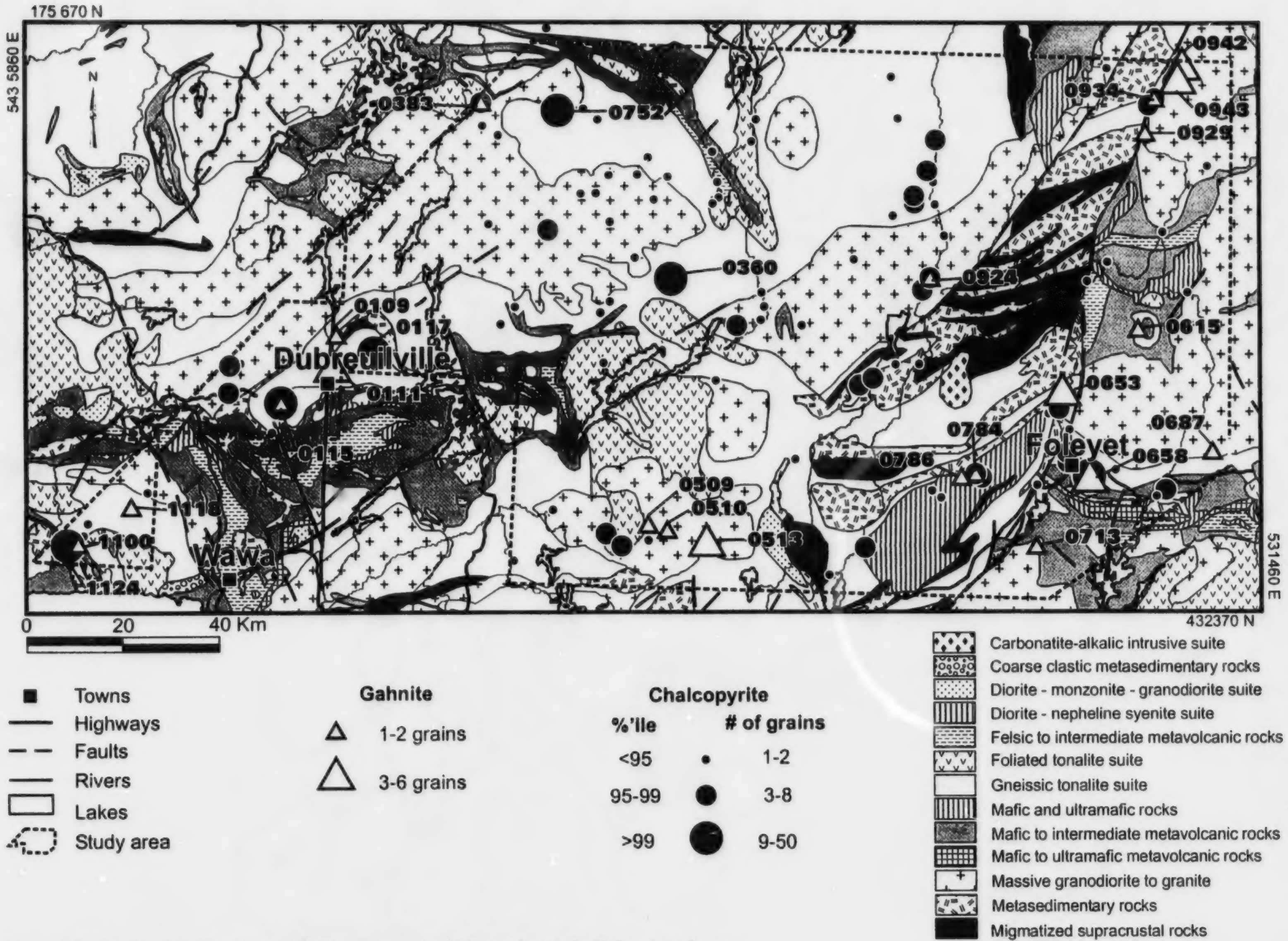
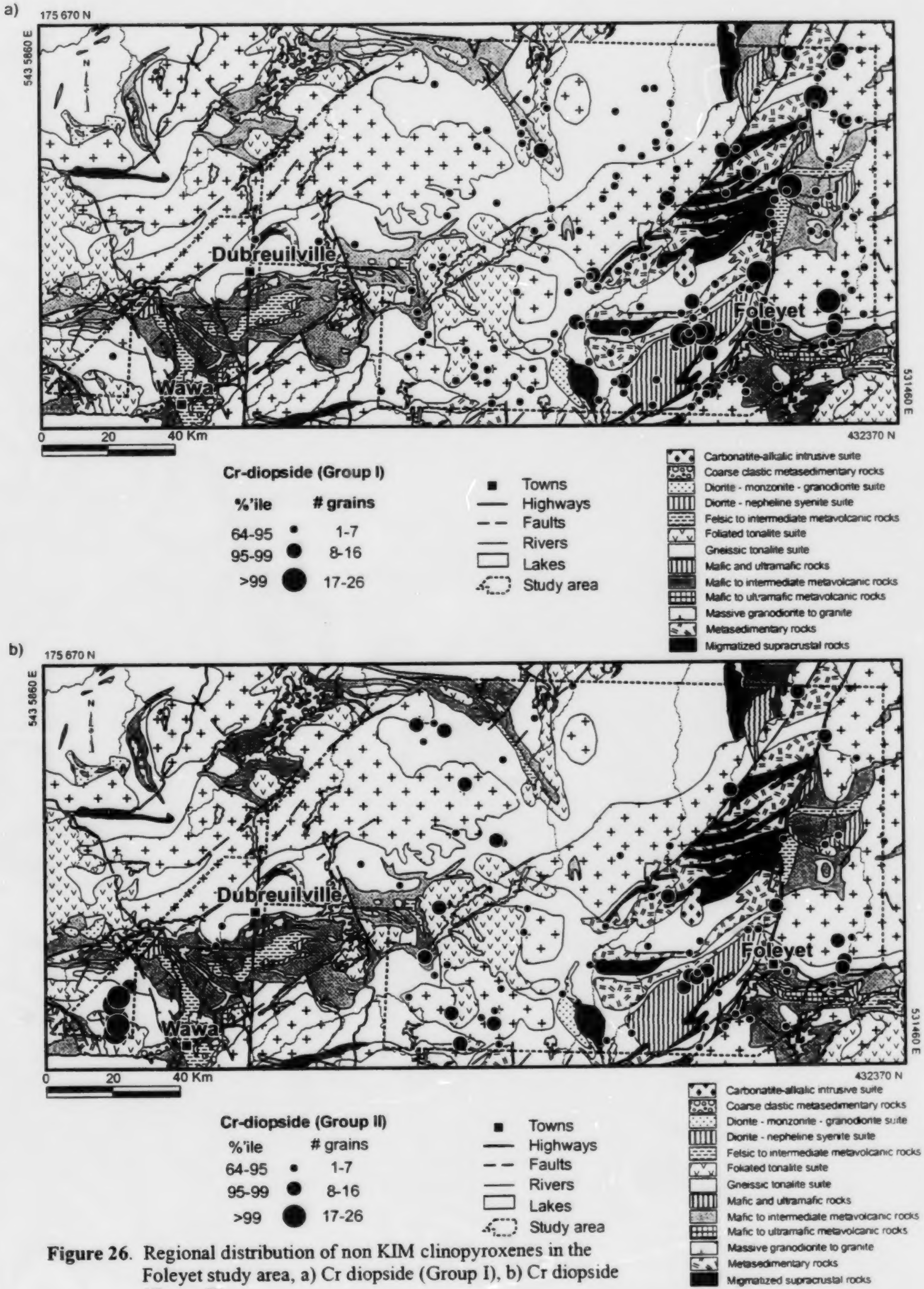
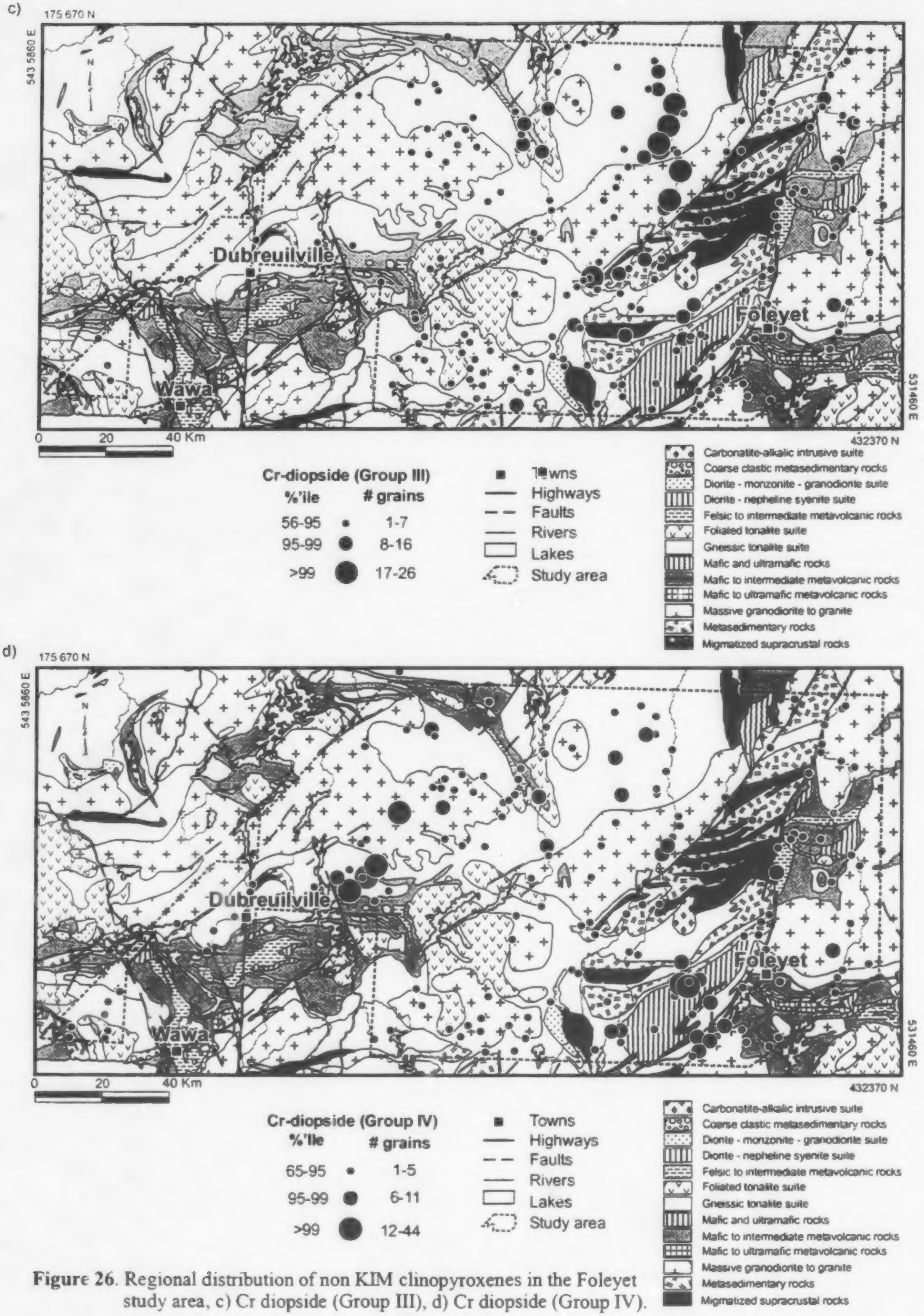


Figure 25. Regional distribution of chalcopyrite and gahnite grains in the Foleyet study area.



a)
175 670 N
543 5860 E
Dubreuilville
Wawa
Foleyet
531460 E
432370 N
0
20
40 Km
Cr-diopside (Group I)
%'ile
# grains
64-95
1-7
95-99
8-16
>99
17-26
Towns
Highways
Faults
Rivers
Lakes
Study area
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks
b)
175 670 N
543 5860 E
Dubreuilville
Wawa
Foleyet
531460 E
432370 N
0
20
40 Km
Cr-diopside (Group II)
%'ile
# grains
64-95
1-7
95-99
8-16
>99
17-26
Towns
Highways
Faults
Rivers
Lakes
Study area
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks

Figure 26. Regional distribution of non KIM clinopyroxenes in the Foleyet study area, a) Cr diopside (Group I), b) Cr diopside (Group II).



c)
175 670 N
543 5860 E
N
Dubreuilville
Wawa
Foleyet
531460 E
432370 N
0
20
40 Km
Cr-diopside (Group III)
%'ile
# grains
56-95
1-7
95-99
8-16
>99
17-26
Towns
Highways
Faults
Rivers
Lakes
Study area
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks
d)
175 670 N
543 5860 E
N
Dubreuilville
Wawa
Foleyet
531460 E
432370 N
0
20
40 Km
Cr-diopside (Group IV)
%'ile
# grains
65-95
1-5
95-99
6-11
>99
12-44
Towns
Highways
Faults
Rivers
Lakes
Study area
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks

Figure 26. Regional distribution of non KIM clinopyroxenes in the Foleyet study area, c) Cr diopside (Group III), d) Cr diopside (Group IV).

Recommendations for Metamorphic/Magmatic Massive Sulphide Exploration

In previous OGS studies (Morris et al. 2000; Allen 2001) recommendations for base metal exploration have been made using a ranking system. This system assigns points for MMSIMs® that occur in excess of the 95th percentile for individual samples. The sample that contains the most anomalous number of MMSIMs® is therefore ranked highest. The advantage to using this method is that relatively rare minerals that are not overly common in the heavy mineral concentrates are given equal weight to minerals such as Cr-diopsides and chromites which can be very common in these samples. The results of this approach are shown in Figure 27. It is interesting to note that many of the highly anomalous sites correspond well with the distribution of chalcopyrite and gahnite (Figure 25). The sites in the southeast part of the study area (Dubreuilville and Mishibishu lake) are less anomalous on this plot since these sites show less variety of MMSIMs®. However, the largest numbers of chalcopyrite grains were recovered in the southeast (KAP-0115, 50 grains; and KAP-1100, 34 grains). A compilation of important MMSIMs® occurrences is provided in Table 3. This list is not intended to provide targets for specific modes of base metal occurrence (VMS, magmatic Ni-Cu, skarn, greissen) since there are no obvious trends in the data set that would suggest such links. Instead, the information provided should be used as general a guide for targeting important MMSIMs® occurrences.

It is suggested here that the reader utilise this information as a starting point for the planning of exploration activities. It is also recommended that the reader utilise the associated OTH geochemical lake sediment surveys (Ontario Geological Survey 2000d) in assessing the base metal potential of these areas, since a large portion of the Foleyet area has been covered in the lake sediment surveys. Other important sources of information include the numerous assessment files that are kept on record at the Mines and Minerals Library located in Sudbury and the regional Resident Geologists Offices. These files contain important information on known mineral occurrences in the study area.

Carbonatite Indicator Minerals

Carbonatite indicator minerals recovered from the Foleyet area occur at anomalous levels at only 2 sample sites. Thirty-one REE carbonates (parisite/synchysite) were recovered from sample KAP-0632 in the vicinity of the Nemogasenda alkalic complex. A second sample (KAP-0901) collected in Bonar Township contained 5 REE carbonates (bastnaesite) and 15 monazites. There are no known carbonatites in this area and the nearest alkalic complex, the Shenango complex, occurs some 20 km to the east. The Shenango complex is silica-saturated to silica oversaturated and, as such, mineralization normally associated with silica-undersaturated alkalic complexes does not occur (Sage 1987a). The anomaly at site KAP-0901 is therefore worthy of further investigation. The distribution of anomalous sites is shown in Figure 28.

One of the most interesting aspects of the carbonatite indicator mineral survey is that significant anomalies do occur around known carbonatites as demonstrated both here and in previous studies (Ontario Geological Survey 2001b). This suggests that local signatures are well represented in the modern alluvium samples collected as part of this study.

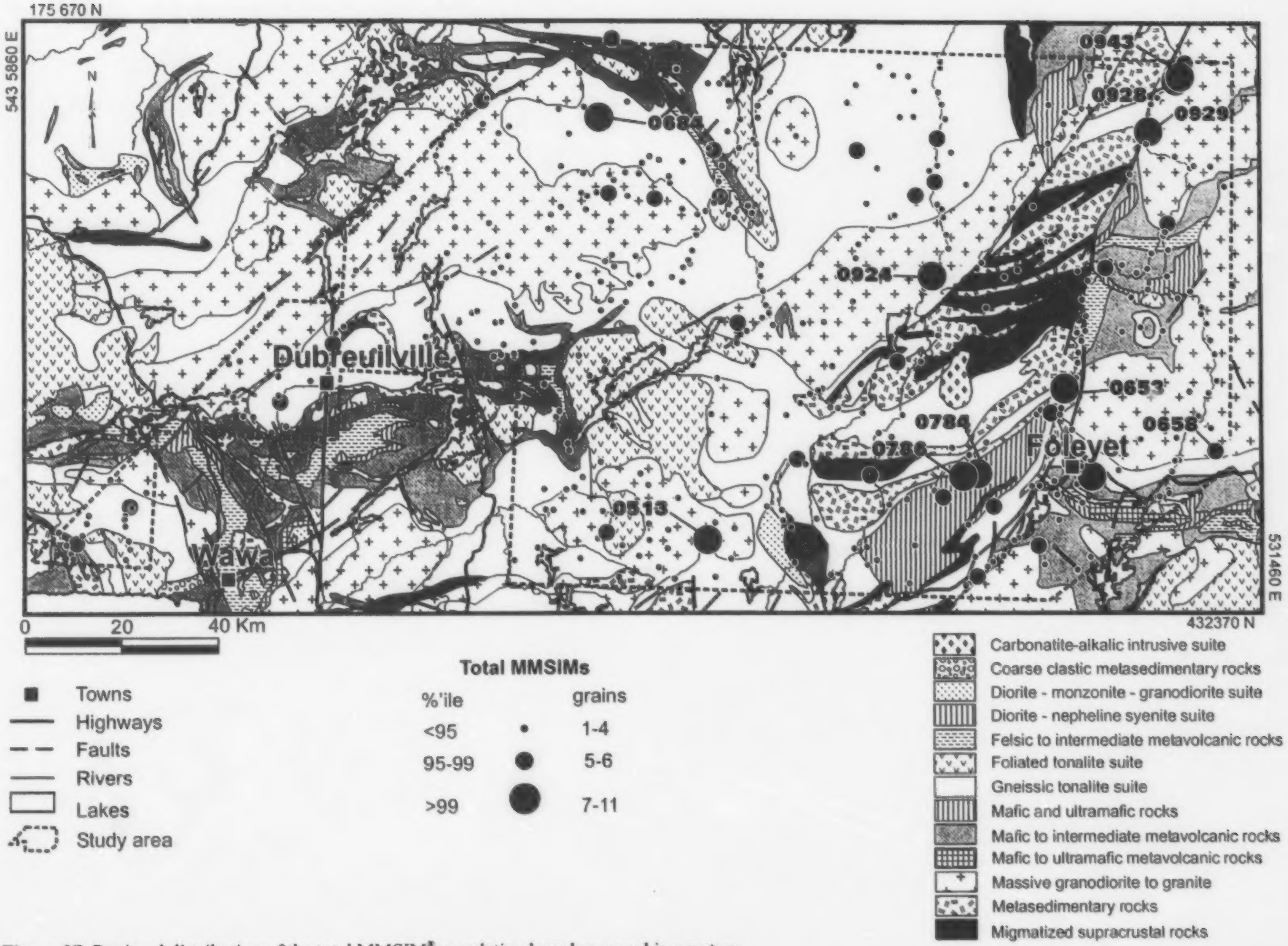

175 670 N
543 5860 E
531460 E
432370 N
N
0943
0928
0929
0684
0924
0653
0658
0784
0786
0513
Dubreuilville
Foleyet
Wawa
0
20
40 Km
Towns
Highways
Faults
Rivers
Lakes
Study area
Total MMSIMs
%'ile
grains
<95
1-4
95-99
5-6
>99
7-11
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks

Figure 27. Regional distribution of the total MMSIM® population based on a ranking system.

Table 3. Summary table of the samples containing the most significant numbers and types of MMSIMs® in the Foleyet study area. Pyrite is included in the table to emphasise the coexistence of different sulphide species in the modern alluvium samples. For a full listing of MMSIMs® the reader is refered to Appendix E. Abbreviations are the same as for Appendix E with the exception of: Chr, chromite; Cpx, clinopyroxene.

Sample KAP-	Ccp	Gahnite	Red Rutile	Ruby Cor	Cr-gross	Cr-Spin	Spin	Loell	Cpx	Chr	Pyr
0110	0	0	0	1	0	0	1	0	2	6	400
0111	0	3	0	0	1	0	0	0	5	4	5
0115	50	1	0	0	0	0	0	0	3	0	5
0117	14	0	0	0	0	0	1	0	2	0	50
0342	6	0	0	0	0	0	0	0	2	0	200
0360	11	0	0	0	0	0	0	0	21	0	40
0366	1	0	0	0	0	0	0	0	7	0	10
0374	0	0	0	1	0	1	0	0	1	13	5
0375	1	0	0	0	0	0	0	0	5	8	25
0383	4	1	0	1	0	0	1	0	0	14	40000
0513	0	6	0	2	0	0	3	0	19	56	20
0533	2	0	1	0	0	0	0	0	32	0	30
0563	0	0	3	2	0	0	2	0	24	1	0
0595	1	0	0	0	0	0	0	0	12	40	2
0640	1	0	0	15	0	0	2	0	8	0	0
0641	0	0	0	0	0	0	4	0	22	0	0
0644	4	0	0	1	0	0	0	0	21	0	100
0653	1	3	5	6	0	1	3	0	26	23	3
0658	9	4	0	0	0	0	1	2	16	32	3000
0663	5	0	0	0	0	0	0	0	15	0	15
0668	0	0	1	1	0	1	1	0	23	0	0
0684	1	0	1	0	0	0	1	0	12	0	50
0686	0	0	0	0	0	0	1	0	1	3	35
0687	0	2	1	0	0	1	0	0	5	2	15
0708	0	0	0	9	0	0	0	0	18	7	0
0713	0	1	0	0	0	0	3	0	10	14	0
0739	3	0	0	0	0	1	2	0	44	0	50
0752	10	0	0	0	0	0	0	0	5	0	100
0762	0	0	3	0	0	1	0	1	14	2	3
0783	4	0	0	5	0	0	0	0	30	0	8
0784	7	1	3	2	0	0	0	0	25	1	15
0786	1	2	3	3	0	0	1	0	16	3	15
0796	0	0	1	1	0	1	1	0	11	3	4
0852	2	0	1	0	0	0	1	0	9	0	20
0862	1	0	0	0	0	0	0	0	1	0	1
0867	3	0	0	0	0	0	0	0	33	0	1
0897	3	0	0	0	0	0	1	0	16	0	25
0924	7	2	0	1	0	0	2	0	52	1	25
0926	1	0	0	1	0	0	2	0	28	0	3
0928	5	0	1	0	0	0	2	0	18	10	150
0929	2	1	0	2	0	0	1	0	36	25	5
0934	4	2	0	0	0	0	1	0	6	0	25
0942	4	3	0	0	0	0	0	0	17	0	50
0943	2	4	2	1	0	0	0	0	19	8	60
1100	1	1	3	1	0	0	0	0	1	29	50
1118	1	1	0	0	0	0	1	0	12	1	5
1124	34	0	0	0	0	0	0	0	0	0	11

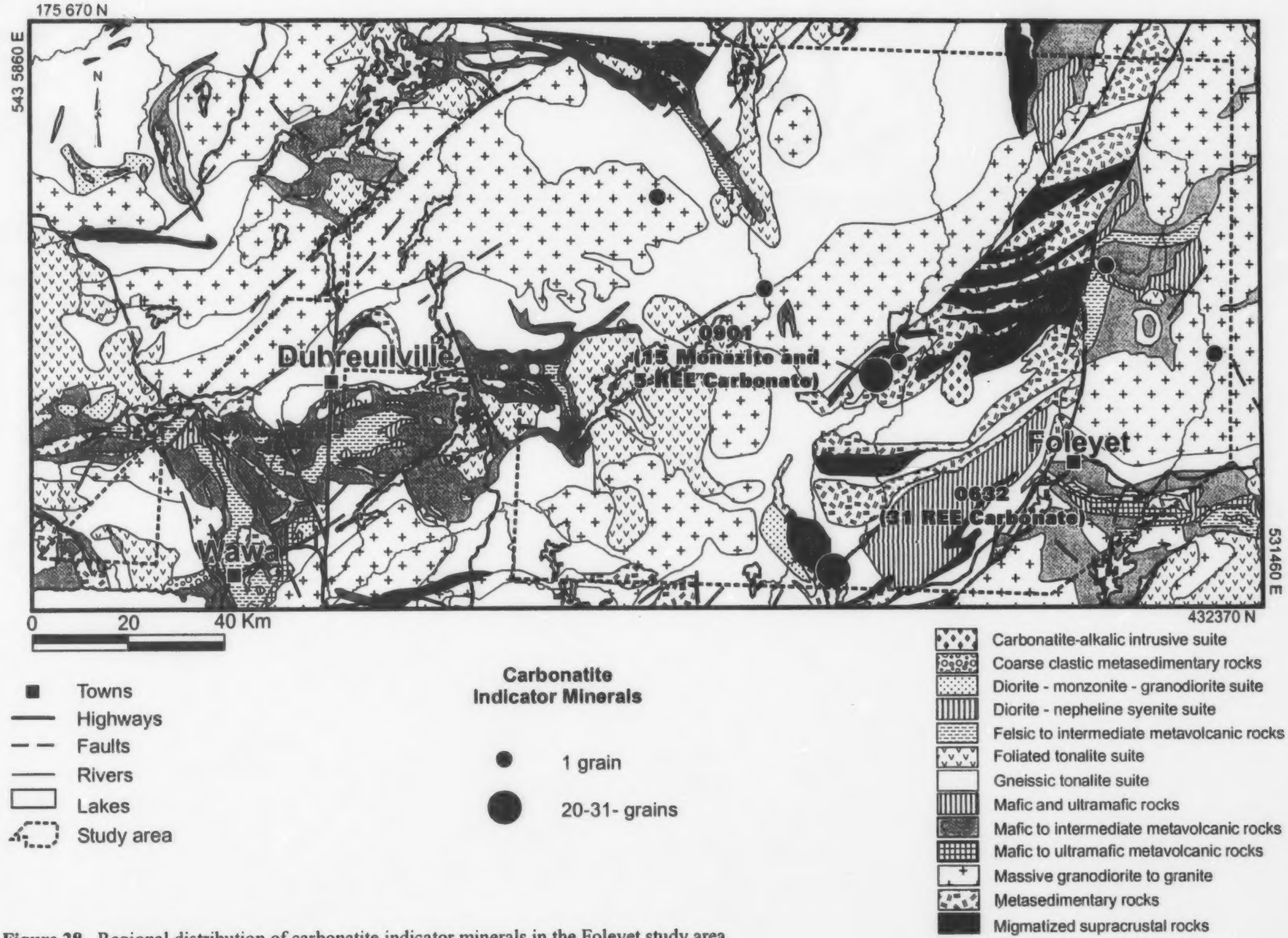

175 670 N
543 5860 E
N
Dubreuilville
Wawa
Foleyet
0901
(15 Monazite and
5 REE Carbonate)
0632
(31 REE Carbonate)
531460 E
432370 N
0
20
40 Km
Towns
Highways
Faults
Rivers
Lakes
Study area
Carbonatite
Indicator Minerals
1 grain
20-31- grains
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks

Figure 28. Regional distribution of carbonatite indicator minerals in the Foleyet study area.

Gold

Gold grains recovered from overburden samples are commonly silt sized and vary in grain shape depending on the distance of transport from their source area. Gold grain shapes can be used to determine the transport history of the sample. Three gold grain appearances are recognised: 1) pristine; 2) modified; and 3) reshaped. In general, pristine grains indicate low transport distance from the source area and reshaped grains indicate a longer distance of transport.

A total of 77 gold grains were recovered from samples collected within the study area (Appendix G). Of these grains, all are reshaped except for one modified grain. The reshaped grains recovered from this study suggest some distance of transport. The regional distribution of these grains is shown in Figure 29. It should be noted that the sites containing the highest numbers of gold grains in the Foleyet study area are low in comparison with other areas such as the Abitibi greenstone belt. Caution is warranted in the exploration value of the gold grain data presented herein.

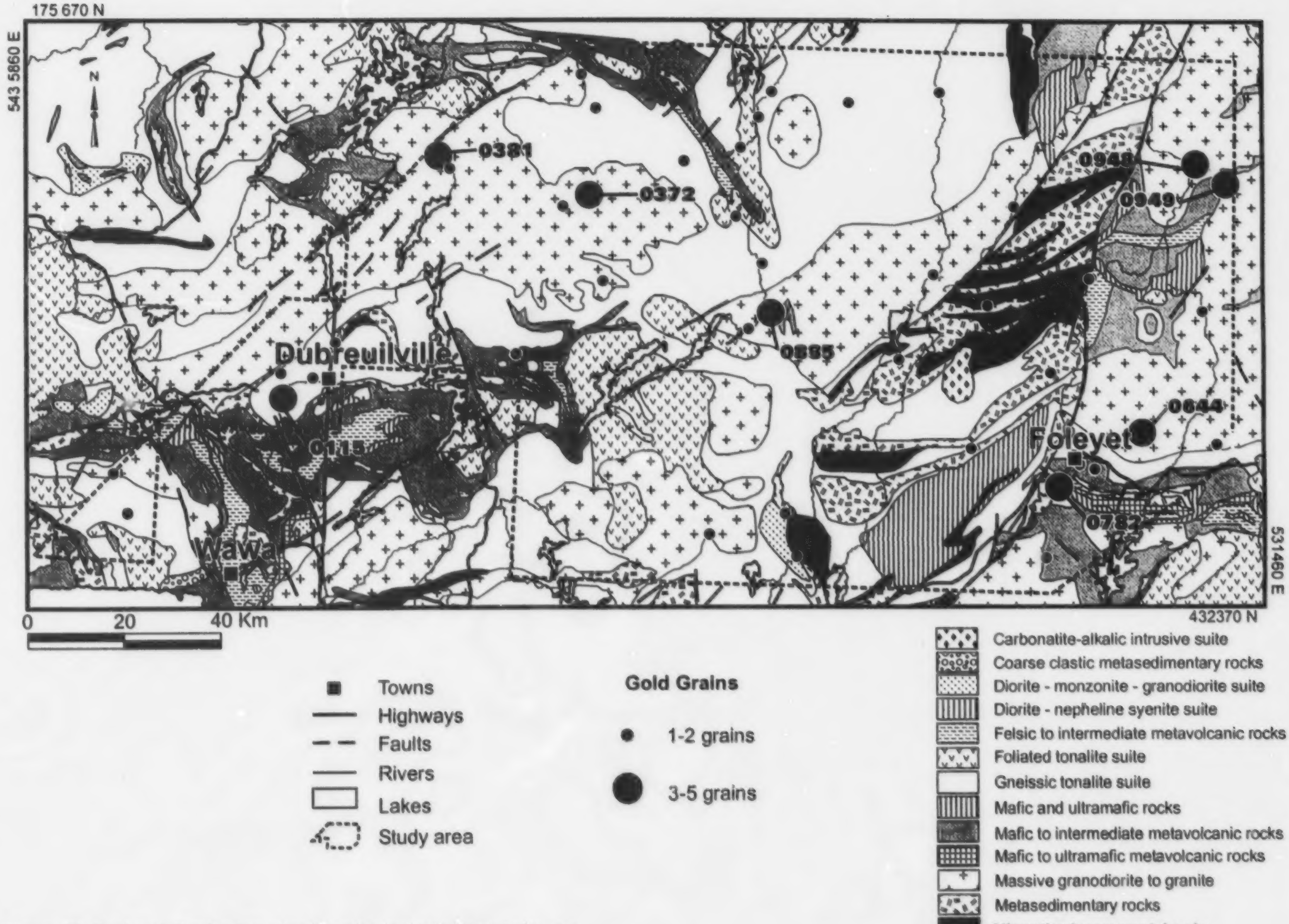

175 670 N
543 5860 E
N
0381
0372
0948
0949
0585
0644
0782
0115
Dubreuilville
Foleyet
Wawa
531460 E
432370 N
0
20
40 Km
Towns
Highways
Faults
Rivers
Lakes
Study area
Gold Grains
1-2 grains
3-5 grains
Carbonatite-alkalic intrusive suite
Coarse clastic metasedimentary rocks
Diorite - monzonite - granodiorite suite
Diorite - nepheline syenite suite
Felsic to intermediate metavolcanic rocks
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite
Metasedimentary rocks
Migmatized supracrustal rocks

Figure 29. Regional distribution of gold grains in the Foleyet study area.

Acknowledgements

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Samples were collected by W.A. Hubacheck Consultants Ltd. under contract to the OGS. Overburden Drilling Management performed the heavy mineral processing under contract to the OGS and the Geoscience Laboratories in Sudbury performed the microprobe analysis.

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APPENDIX A: Sample Locations by UTM Coordinates and Township.

Sample # KAP	Township	UTM Grid Zone	Datum	Easting	Northing
0028	Dumas	17	NAD 83	220737	5354365
0029	Dumas	17	NAD 83	222750	5354150
0030	Leclaire	17	NAD 83	226534	5351047
0108	Huotari	17	NAD 83	241594	5372297
0109	Huotari	17	NAD 83	239920	5370943
0110	Huotari	17	NAD 83	239304	5368722
0111	Huotari	17	NAD 83	239113	5364725
0112	Huotari	17	NAD 83	238919	5363334
0113	Dunphy	17	NAD 83	234629	5361346
0114	Dombrossio	17	NAD 83	217528	5359219
0115	Dunphy	17	NAD 83	228384	5357062
0116	Finan	17	NAD 83	238390	5360624
0117	Huotari	17	NAD 83	247802	5367244
0251	Pattison	17	NAD 83	334874	5324311
0277	Hornell	17	NAD 83	281596	5327369
0279	Addison	17	NAD 83	297248	5334391
0280	Delmage	17	NAD 83	294092	5329302
0281	Ramsden	17	NAD 83	304839	5328933
0282	Ramsden	17	NAD 83	304730	5328948
0283	Ramsden	17	NAD 83	306710	5323265
0284	Chaplin	17	NAD 83	306128	5335100
0285	Abbey	17	NAD 83	302941	5342562
0286	Missinaibi	17	NAD 83	297344	5352187
0287	Lang	17	NAD 83	287960	5348661
0288	Bader	17	NAD 83	283008	5339395
0289	Lang	17	NAD 83	291007	5341866
0290	Collishaw	17	NAD 83	289250	5339786
0291	Collishaw	17	NAD 83	287571	5339350
0292	Bader	17	NAD 83	284943	5335162
0293	Bader	17	NAD 83	283335	5335274
0294	Abigo	17	NAD 83	303154	5370949
0295	Nebotik	17	NAD 83	294914	5381433
0296	Nebotik	17	NAD 83	295818	5385724
0297	Nebotik	17	NAD 83	302794	5382644
0298	Nebotik	17	NAD 83	302769	5382690
0299	Conking	17	NAD 83	311788	5381444
0300	Conking	17	NAD 83	313349	5385223
0312	Collins	17	NAD 83	352043	5324807
0339	Hornell	17	NAD 83	276773	5324779
0341	Collishaw	17	NAD 83	295085	5334924
0342	Buckland	17	NAD 83	295866	5330391
0343	Buckland	17	NAD 83	299130	5327864
0344	Buckland	17	NAD 83	302576	5325592
0345	Ramsden	17	NAD 83	308446	5327199
0346	Addison	17	NAD 83	304514	5340216
0347	Lang	17	NAD 83	288180	5347324
0348	Dunphy	17	NAD 83	231608	5361320
0349	Carmody	17	NAD 83	220032	5365251
0350	Bernst	17	NAD 83	217778	5364797
0351	Huotar	17	NAD 83	245653	5365941

Sample # KAP	Township	UTM Grid Zone	Datum	Easting	Northing
0352	Challener	17	NAD 83	265547	5373590
0353	Acton	17	NAD 83	274250	5373188
0354	Acton	17	NAD 83	273090	5373033
0355	Acton	17	NAD 83	274592	5375611
0356	Stover	17	NAD 83	283163	5360603
0357	Amik	17	NAD 83	294900	5375522
0358	Makawa	17	NAD 83	290264	5382666
0359	Nebotik	17	NAD 83	297674	5384655
0360	Conking	17	NAD 83	309614	5382370
0361	Conking	17	NAD 83	311919	5384451
0362	Conking	17	NAD 83	313033	5385998
0363	Conking	17	NAD 83	314651	5391319
0364	Hayward	17	NAD 83	314952	5395554
0365	Hayward	17	NAD 83	316657	5396236
0366	Hayward	17	NAD 83	319686	5399211
0367	Hayward	17	NAD 83	321445	5395406
0368	Coderre	17	NAD 83	325484	5397354
0369	Mildred	17	NAD 83	284545	5395461
0370	Mildred	17	NAD 83	284600	5395426
0371	Carney	17	NAD 83	256202	5398974
0372	Mildred	17	NAD 83	292116	5399377
0373	Mildred	17	NAD 83	291830	5396486
0374	Hook	17	NAD 83	296587	5399821
0375	Hook	17	NAD 83	306158	5398700
0376	Hook	17	NAD 83	303573	5406205
0377	Hook	17	NAD 83	307045	5406805
0378	Hayward	17	NAD 83	309215	5402002
0379	Hayward	17	NAD 83	314818	5406549
0380	Mildred	17	NAD 83	291007	5399969
0381	Carney	17	NAD 83	260854	5407744
0382	Ermine	17	NAD 83	262236	5411285
0383	Irving	17	NAD 83	270373	5418989
0384	Irving	17	NAD 83	271975	5419717
0385	Irving	17	NAD 83	273851	5412245
0386	Irving	17	NAD 83	272831	5410151
0387	Martin	17	NAD 83	272008	5397155
0388	Leeson	17	NAD 83	290250	5366312
0389	Moorehouse	17	NAD 83	277921	5390074
0390	Moorehouse	17	NAD 83	272760	5383303
0391	Glasgow	17	NAD 83	269283	5369167
0392	Amik	17	NAD 83	296909	5377715
0393	Leeson	17	NAD 83	295600	5365322
0394	Leeson	17	NAD 83	292485	5362241
0395	Meath	17	NAD 83	276844	5366140
0396	Rennie	17	NAD 83	276909	5366640
0397	Meath	17	NAD 83	274182	5366474
0398	Meath	17	NAD 83	272713	5366056
0399	Simpson	17	NAD 83	263019	5387509
0400	Simpson	17	NAD 83	262846	5382386
0401	Conking	17	NAD 83	313783	5387943

Sample # KAP	Township	UTM Grid Zone	Datum	Easting	Northing
0402	Hayward	17	NAD 83	314895	5393674
0403	Hayward	17	NAD 83	311879	5396671
0404	Hayward	17	NAD 83	318408	5397914
0405	Hayward	17	NAD 83	319819	5399509
0406	Coderre	17	NAD 83	322593	5394919
0407	Coderre	17	NAD 83	326283	5395840
0408	Mildred	17	NAD 83	286710	5397044
0409	Mildred	17	NAD 83	286753	5405519
0410	Mildred	17	NAD 83	291320	5404100
0411	Hook	17	NAD 83	294115	5400091
0412	Hook	17	NAD 83	297027	5394133
0413	Hook	17	NAD 83	297698	5402677
0414	Hook	17	NAD 83	302816	5403918
0415	Hook	17	NAD 83	302803	5403965
0416	Hook	17	NAD 83	305037	5407562
0417	Hayward	17	NAD 83	311859	5406558
0418	Hayward	17	NAD 83	311904	5406579
0419	Hayward	17	NAD 83	309105	5403461
0420	Carney	17	NAD 83	263213	5405060
0421	Ermine	17	NAD 83	261883	5409965
0422	Irving	17	NAD 83	265387	5414186
0423	Irving	17	NAD 83	271400	5419504
0424	Irving	17	NAD 83	270628	5414262
0425	Irving	17	NAD 83	276045	5413692
0426	Moorehouse	17	NAD 83	264739	5392823
0427	Moorehouse	17	NAD 83	271793	5393705
0428	Moorehouse	17	NAD 83	275697	5386863
0429	Acton	17	NAD 83	268240	5375106
0430	Meath	17	NAD 83	274769	5368486
0431	Acton	17	NAD 83	269273	5375442
0432	Acton	17	NAD 83	277183	5376642
0433	Moorehouse	17	NAD 83	274335	5384479
0451	Nebotik	17	NAD 83	300050	5377210
0452	Nebotik	17	NAD 83	297194	5387065
0453	Nebotik	17	NAD 83	300894	5381119
0454	Nebotik	17	NAD 83	305287	5380819
0455	Nebotik	17	NAD 83	305272	5381048
0456	Glasgow	17	NAD 83	258585	5370196
0457	Glasgow	17	NAD 83	259177	5368594
0458	Challener	17	NAD 83	265562	5373113
0459	Carney	17	NAD 83	260451	5399216
0460	Carney	17	NAD 83	258269	5397849
0461	Simpson	17	NAD 83	257049	5394440
0462	Simpson	17	NAD 83	252205	5388302
0463	Martin	17	NAD 83	264284	5398710
0464	Stover	17	NAD 83	277808	5358317
0465	Stover	17	NAD 83	285507	5354038
0466	Brackin	17	NAD 83	286273	5355255
0467	Bonar	17	NAD 83	340854	5359719
0468	Bonar	17	NAD 83	339961	5359381

Sample # KAP	Township	UTM Grid Zone	Datum	Easting	Northing
0469	Bonar	17	NAD 83	338247	5358728
0470	Bonar	17	NAD 83	342833	5364236
0471	Llyod	17	NAD 83	336205	5356792
0472	Calais	17	NAD 83	322671	5360079
0473	Calais	17	NAD 83	318867	5361699
0474	Busby	17	NAD 83	317669	5354598
0501	Glasgow	17	NAD 83	265013	5368048
0502	Rennir	17	NAD 83	280917	5369040
0503	Collinshaw	17	NAD 83	290963	5334828
0504	Delmage	17	NAD 83	290451	5325179
0505	Bliss	17	NAD 83	298720	5320478
0506	Bliss	17	NAD 83	298376	5321328
0507	Lang	17	NAD 83	294742	5344971
0508	Addison	17	NAD 83	302218	5337116
0509	Addison	17	NAD 83	304655	5332284
0510	Ramsden	17	NAD 83	308633	5331069
0511	Chaplin	17	NAD 83	310635	5337597
0512	Mageau	17	NAD 83	317926	5330521
0513	Mageau	17	NAD 83	316742	5328880
0516	Hill	17	NAD 83	309892	5320994
0517	Manning	17	NAD 83	318310	5332537
0518	Manning	17	NAD 83	322377	5331367
0519	Mageau	17	NAD 83	321632	5325048
0520	Lipsett	17	NAD 83	328965	5341840
0521	Floranna	17	NAD 83	329115	5335910
0522	Sadler	17	NAD 83	334099	5331602
0523	Floranna	17	NAD 83	332549	5333028
0533	Lipsett	17	NAD 83	335463	5345487
0534	Floranna	17	NAD 83	332266	5335121
0557	Mageau	17	NAD 83	318376	5321369
0563	Copperfield	17	NAD 83	350686	5342231
0564	Alcorn	17	NAD 83	346071	5336019
0565	Sadler	17	NAD 83	339505	5333365
0571	Kirkwall	17	NAD 83	347226	5377480
0572	Kirkwall	17	NAD 83	348947	5370891
0573	Lipsett	17	NAD 83	333253	5354402
0579	Llyod	17	NAD 83	326315	5364477
0580	Murdock	17	NAD 83	358847	5320030
0581	Lipsett	17	NAD 83	337424	5344523
0582	Lipsett	17	NAD 83	337252	5344531
0583	Murdock	17	NAD 83	359988	5327802
0584	Murdock	17	NAD 83	350106	5323846
0585	Lincoln	17	NAD 83	355157	5350004
0586	Warren	17	NAD 83	364884	5339074
0587	Lincoln	17	NAD 83	364075	5339176
0588	Paul	17	NAD 83	358371	5337401
0590	Pinogami	17	NAD 83	372593	5325551
0591	Lemoine	17	NAD 83	371442	5346466
0592	Lemoine	17	NAD 83	374971	5348934
0593	Lemoine	17	NAD 83	371050	5351464

Sample # KAP	Township	UTM Grid Zone	Datum	Easting	Northing
0594	Lemoine	17	NAD 83	367873	5347907
0595	Warren	17	NAD 83	365994	5337719
0596	Warren	17	NAD 83	371163	5332226
0597	Lemoine	17	NAD 83	367951	5341235
0608	Melrose	17	NAD 83	419182	5354488
0609	Reeves	17	NAD 83	417035	5351879
0610	Reeves	17	NAD 83	416496	5352178
0611	Reeves	17	NAD 83	414527	5350229
0612	Reeves	17	NAD 83	414532	5350030
0613	Reeves	17	NAD 83	417096	5340918
0614	Reeves	17	NAD 83	412813	5339333
0615	Nova	17	NAD 83	407145	5372469
0616	Strachan	17	NAD 83	414993	5378466
0617	Starchan	17	NAD 83	417634	5379910
0618	Montcalm	17	NAD 83	412747	5383044
0619	Nova	17	NAD 83	405282	5378624
0620	Nova	17	NAD 83	393951	5371298
0621	Shenago	17	NAD 83	378151	5356635
0622	Strachan	17	NAD 83	411789	5371731
0623	Melrose	17	NAD 83	417287	5359451
0624	Reeves	17	NAD 83	415060	5345502
0625	Reeves	17	NAD 83	414181	5345385
0626	Reeves	17	NAD 83	413571	5343198
0627	Reeves	17	NAD 83	412194	5351339
0628	Oates	17	NAD 83	388172	5362297
0629	Oates	17	NAD 83	394207	5367126
0632	Collins	17	NAD 83	342418	5321734
0633	Collins	17	NAD 83	349873	5327456
0634	Collins	17	NAD 83	347316	5327244
0637	Oates	17	NAD 83	385543	5354864
0638	Oates	17	NAD 83	385458	5354750
0639	Oates	17	NAD 83	386360	5355620
0640	Oates	17	NAD 83	388440	5354944
0641	Carty	17	NAD 83	376506	5335825
0642	Foleyet	17	NAD 83	384435	5340125
0643	Foleyet	17	NAD 83	389065	5341226
0644	Foleyet	17	NAD 83	392378	5344962
0645	Foleyet	17	NAD 83	393798	5340636
0646	Foleyet	17	NAD 83	386017	5340270
0647	Nova	17	NAD 83	395850	5374746
0648	Nova	17	NAD 83	395617	5371592
0649	Nova	17	NAD 83	394876	5369560
0650	Oates	17	NAD 83	394070	5365088
0651	Oates	17	NAD 83	393789	5362091
0652	Oates	17	NAD 83	393738	5362117
0653	Oates	17	NAD 83	391294	5359869
0654	Foleyet	17	NAD 83	395566	5345904
0656	Ivanhoe	17	NAD 83	394810	5336788
0657	Muskego	17	NAD 83	397198	5342151
0658	Muskego	17	NAD 83	396871	5342098

Sample # KAP	Township	UTM Grid Zone	Datum	Easting	Northing
0659	Foleyet	17	NAD 83	392821	5345130
0660	Penhorwood	17	NAD 83	410551	5338009
0661	Penhorwood	17	NAD 83	411013	5338062
0662	Reeves	17	NAD 83	412948	5338756
0663	Foleyet	17	NAD 83	392331	5346927
0664	Muskego	17	NAD 83	407068	5349763
0665	Muskego	17	NAD 83	402437	5343456
0666	Clouston	17	NAD 83	352455	5405341
0667	Mons	17	NAD 83	350147	5397916
0668	Mons	17	NAD 83	348287	5408937
0669	Radisson	17	NAD 83	346610	5418580
0670	Radisson	17	NAD 83	346283	5418776
0671	Radisson	17	NAD 83	348086	5422481
0672	Maude	17	NAD 83	360173	5415940
0673	Maude	17	NAD 83	357346	5415874
0674	Clouston	17	NAD 83	365136	5411344
0675	Hook	17	NAD 83	300478	5399340
0676	Hook	17	NAD 83	296783	5403833
0677	Hook	17	NAD 83	300050	5404286
0678	Allenby	17	NAD 83	366476	5414709
0679	Legge	17	NAD 83	298511	5416915
0680	Legge	17	NAD 83	300476	5418790
0681	Walls	17	NAD 83	290640	5424680
0682	Marjorie	17	NAD 83	291575	5417750
0683	Marjorie	17	NAD 83	293605	5417496
0684	Legge	17	NAD 83	294607	5415519
0685	Walls	17	NAD 83	284009	5434585
0686	Minnipuka	17	NAD 83	297368	5431806
0687	Reeves	17	NAD 83	422679	5347317
0688	Foleyet	17	NAD 83	394063	5343131
0689	Foleyet	17	NAD 83	394680	5344243
0702	Ivanhoe	17	NAD 83	384378	5331156
0703	Ivanhoe	17	NAD 83	381601	5329453
0704	Pinorgami	17	NAD 83	380647	5328930
0705	Pinogami	17	NAD 83	378433	5325739
0706	Pinogami	17	NAD 83	376254	5324419
0707	Pinogami	17	NAD 83	375175	5323432
0708	Pinogami	17	NAD 83	373019	5321361
0709	Pinogami	17	NAD 83	371162	5319869
0710	Hellyer	17	NAD 83	370583	5319527
0713	Ivanhoe	17	NAD 83	385734	5327733
0714	Silk	17	NAD 83	387003	5323961
0720	Oates	17	NAD 83	390320	5354808
0721	Oates	17	NAD 83	390550	5356058
0722	Oates	17	NAD 83	390802	5353759
0723	Oates	17	NAD 83	391004	5352923
0724	Foleyet	17	NAD 83	392772	5351650
0725	Keith	17	NAD 83	396503	5325523
0726	Silk	17	NAD 83	393753	5322819
0727	Buchan	17	NAD 83	371073	5402062

Sample # KAP	Township	UTM Grid Zone	Datum	Easting	Northing
0728	Buchan	17	NAD 83	376393	5396971
0729	Lisgar	17	NAD 83	380667	5397172
0730	Lisgar	17	NAD 83	381994	5397227
0731	Lisgar	17	NAD 83	384956	5397513
0732	Lisgar	17	NAD 83	384926	5406404
0733	Lisgar	17	NAD 83	384757	5406438
0734	Lisgar	17	NAD 83	393222	5409544
0735	Seaton	17	NAD 83	393942	5412019
0736	Lisgar	17	NAD 83	388166	5410554
0737	Seaton	17	NAD 83	388342	5418558
0738	Slack	17	NAD 83	401047	5426403
0739	Clouston	17	NAD 83	365095	5411388
0740	Allenby	17	NAD 83	366757	5415493
0741	Allenby	17	NAD 83	366091	5418525
0742	Maude	17	NAD 83	365304	5421009
0743	Maude	17	NAD 83	364845	5425534
0744	Concobar	17	NAD 83	365759	5426137
0745	Concobar	17	NAD 83	365750	5427385
0746	Byng	17	NAD 83	310729	5425569
0747	Byng	17	NAD 83	317256	5422619
0748	Byng	17	NAD 83	319656	5422669
0749	Puskuta	17	NAD 83	321656	5419004
0750	Byng	17	NAD 83	320560	5423569
0751	Marjorie	17	NAD 83	288445	5412161
0752	Marjorie	17	NAD 83	286307	5417314
0753	Seaton	17	NAD 83	391352	5414627
0754	Seaton	17	NAD 83	391701	5417027
0755	Griffin	17	NAD 83	395253	5417819
0756	Griffin	17	NAD 83	400531	5419187
0757	Griffin	17	NAD 83	400464	5422145
0758	Seaton	17	NAD 83	393403	5412057
0759	Griffin	17	NAD 83	396988	5424469
0760	Montcalm	17	NAD 83	409543	5387875
0761	Montcalm	17	NAD 83	412103	5391519
0762	Montcalm	17	NAD 83	412987	5394013
0763	Montcalm	17	NAD 83	412460	5392354
0764	Montcalm	17	NAD 83	413038	5388567
0765	Belford	17	NAD 83	393638	5391480
0766	Wadsworth	17	NAD 83	394167	5384055
0767	Nova	17	NAD 83	395003	5378096
0768	Belford	17	NAD 83	396668	5382210
0769	Belford	17	NAD 83	396303	5382071
0770	Strachan	17	NAD 83	408750	5380234
0771	Strachan	17	NAD 83	421702	5369719
0772	Strachan	17	NAD 83	421003	5373219
0773	Strachan	17	NAD 83	419838	5375269
0774	Strachan	17	NAD 83	419998	5376659
0775	Enid	17	NAD 83	426510	5381064
0776	Nova	17	NAD 83	403336	5371518
0777	Melrose	17	NAD 83	421381	5359135

Sample # KAP	Township	UTM Grid Zone	Datum	Easting	Northing
0778	Melrose	17	NAD 83	423040	5361504
0779	Melrose	17	NAD 83	422565	5366893
0780	Reeves	17	NAD 83	421759	5351996
0781	Reeves	17	NAD 83	418718	5347801
0782	Ivanhoe	17	NAD 83	389721	5338451
0783	Lemoine	17	NAD 83	374404	5341878
0784	Lemoine	17	NAD 83	373154	5342574
0785	Lemoine	17	NAD 83	369914	5340628
0786	Lemoine	17	NAD 83	370198	5341997
0787	Folyet	17	NAD 83	388970	5349943
0788	Folyet	17	NAD 83	388897	5350038
0789	Ivanhoe	17	NAD 83	390051	5333180
0791	Montcalm	17	NAD 83	409134	5384628
0792	Montcalm	17	NAD 83	408635	5384673
0793	Belford	17	NAD 83	406408	5383761
0794	Belford	17	NAD 83	403401	5385353
0795	Belford	17	NAD 83	400885	5386144
0796	Belford	17	NAD 83	399970	5384684
0851	Buchan	17	NAD 83	365092	5405994
0852	Clouston	17	NAD 83	364574	5402504
0853	Clouston	17	NAD 83	360641	5398144
0854	Amunsden	17	NAD 83	355286	5395159
0855	Amunsden	17	NAD 83	351296	5392583
0856	Stefansson	17	NAD 83	348460	5389463
0857	Kirkwall	17	NAD 83	344159	5382681
0858	Cromlech	17	NAD 83	333177	5428586
0859	Ericson	17	NAD 83	330186	5421050
0860	Ericson	17	NAD 83	330210	5421049
0861	Ericson	17	NAD 83	323931	5415267
0862	Puskuta	17	NAD 83	318417	5408826
0863	Hayward	17	NAD 83	319392	5402424
0864	Clouston	17	NAD 83	363348	5404897
0865	Buchan	17	NAD 83	367935	5408631
0866	Buchan	17	NAD 83	365007	5397864
0867	Clouston	17	NAD 83	360509	5399660
0868	Amunsden	17	NAD 83	356106	5395533
0869	Stefansson	17	NAD 83	347645	5392438
0870	Stefansson	17	NAD 83	347830	5386496
0871	Kirkwall	17	NAD 83	348320	5381165
0872	Usnac	17	NAD 83	338143	5429740
0873	Ericson	17	NAD 83	331749	5423339
0874	Ericson	17	NAD 83	327641	5418112
0875	Ericson	17	NAD 83	327489	5415669
0876	Ericson	17	NAD 83	327629	5415591
0877	Puskuta	17	NAD 83	321319	5412713
0878	Puskuta	17	NAD 83	317453	5409274
0879	Champlain	17	NAD 83	323678	5409381
0880	Ericson	17	NAD 83	326920	5413235
0881	Champlain	17	NAD 83	335522	5411869
0882	Coderre	17	NAD 83	328047	5385108

Sample # KAP	**Township**	**UTM Grid Zone**	**Datum**	**Easting**	**Northing**
0883	Conking	17	NAD 83	320159	5379854
0884	Lerwick	17	NAD 83	329056	5376733
0885	Lerwick	17	NAD 83	329740	5374700
0886	Lerwick	17	NAD 83	325100	5371380
0887	Lerwick	17	NAD 83	330602	5372626
0888	Kirkwall	17	NAD 83	336845	5372996
0889	Hayward	17	NAD 83	320130	5405728
0890	Champlain	17	NAD 83	326603	5410997
0891	Champlain	17	NAD 83	327289	5410128
0892	Lerwick	17	NAD 83	327946	5382705
0893	Lerwick	17	NAD 83	328471	5379680
0894	Lerwick	17	NAD 83	329752	5375119
0895	Lerwick	17	NAD 83	328313	5374094
0896	Calais	17	NAD 83	323106	5368853
0897	Lerwick	17	NAD 83	323230	5372976
0898	Lerwick	17	NAD 83	341163	5373185
0899	Bonar	17	NAD 83	343992	5355811
0900	Bonar	17	NAD 83	348805	5360769
0901	Bonar	17	NAD 83	351720	5362261
0902	Maude	17	NAD 83	359136	5424354
0903	Davin	17	NAD 83	366237	5395185
0904	Davin	17	NAD 83	367328	5388640
0905	Wadsworth	17	NAD 83	387822	5390266
0906	Bonar	17	NAD 83	342382	5356058
0907	Bonar	17	NAD 83	349174	5354829
0908	Maude	17	NAD 83	355943	5424466
0909	Maude	17	NAD 83	360342	5421262
0910	Davin	17	NAD 83	365952	5396845
0911	Davin	17	NAD 83	366896	5391482
0912	Davin	17	NAD 83	374135	5385743
0913	Davin	17	NAD 83	388685	5390331
0914	Davin	17	NAD 83	378933	5382781
0915	Davin	17	NAD 83	365296	5385297
0916	Kapuskasing	17	NAD 83	362187	5380269
0917	Sherlock	17	NAD 83	361420	5365161
0918	Sherlock	17	NAD 83	359426	5359044
0919	Lincoln	17	NAD 83	352541	5350864
0920	Stringer	17	NAD 83	422939	5427355
0921	Stringer	17	NAD 83	422358	5427395
0922	Wadsworth	17	NAD 83	381695	5384202
0923	Lougheed	17	NAD 83	375063	5376369
0924	Amunsden	17	NAD 83	363812	5382793
0925	Lougheed	17	NAD 83	365068	5370539
0926	Sherlock	17	NAD 83	356496	5365037
0927	Sherlock	17	NAD 83	357493	5354528
0928	Hicks	17	NAD 83	414845	5423512
0929	Hicks	17	NAD 83	409000	5412993
0930	Poulett	17	NAD 83	414524	5407973
0931	Poulett	17	NAD 83	417657	5405676
0932	Usnac	17	NAD 83	346887	5429836

Sample # KAP	Township	UTM Grid Zone	Datum	Easting	Northing
0933	Oscar	17	NAD 83	353094	5426389
0934	Hicks	17	NAD 83	410967	5420117
0935	Poulett	17	NAD 83	417686	5405647
0936	Poulett	17	NAD 83	421948	5406074
0937	Watson	17	NAD 83	405118	5404369
0938	Paul	17	NAD 83	354610	5336268
0942	Stringer	17	NAD 83	416754	5427204
0943	Hicks	17	NAD 83	415761	5424313
0944	Hicks	17	NAD 83	409659	5418779
0945	Poulett	17	NAD 83	408564	5410533
0946	Hicks	17	NAD 83	408604	5410549
0947	Poulett	17	NAD 83	418486	5406140
0948	Poulett	17	NAD 83	418489	5406158
0949	Poulett	17	NAD 83	424804	5401906
0950	Aiken	17	NAD 83	424812	5401857
1026	Abotossaway	17	NAD 83	229269	5352279
1027	Abotossaway	17	NAD 83	229545	5352266
1028	Dumas	17	NAD 83	228028	5358411
1029	Finan	17	NAD 83	238363	5362569
1030	Dunas	17	NAD 83	227932	5362279
1031	Cudney	17	NAD 83	244180	5383904
1032	Makawa	17	NAD 83	284132	5392479
1033	Nebotik	17	NAD 83	302111	5386805
1034	Makawa	17	NAD 83	292505	5387407
1099	Groseilliers	17	NAD 83	185165	5326290
1100	St. Germain	17	NAD 83	186259	5328314
1114	St. Germain	17	NAD 83	187419	5330088
1115	Warpula	17	NAD 83	188773	5334136
1116	Levesque	17	NAD 83	193221	5341519
1117	Macaskill	17	NAD 83	200674	5338888
1118	Warpula	17	NAD 83	197226	5335876
1119	Warpula	17	NAD 83	196245	5332017
1120	Warpula	17	NAD 83	197008	5328906
1121	Franchere	17	NAD 83	196400	5325112
1122	Dumas	17	NAD 83	218667	5358189
1123	Groseilliers	17	NAD 83	185580	5325250
1124	St. Germain	17	NAD 83	184123	5328009
1125	St. Germain	17	NAD 83	182559	5330811
1126	Warpula	17	NAD 83	188319	5332530
1127	Levesque	17	NAD 83	190253	5337862
1128	Warpula	17	NAD 83	196294	5334165
1129	Warpula	17	NAD 83	196078	5333420
1130	Warpula	17	NAD 83	197516	5335721
1131	Warpula	17	NAD 83	197261	5327238
1132	Dambrossio	17	NAD 83	217384	5354952
1133	Dambrossio	17	NAD 83	215711	5356558

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APPENDIX B: Summary Counts of Picked and Estimated Numbers of Kimberlite Indicator Mineral Grains.

This Appendix represents information provided by Overburden Drilling Management. As such, it is a compilation of types and numbers of KIM grains picked from various particle size fractions. The information here may not accurately represent the actual probed number of grains presented in Appendix C. However, the estimated versus picked grain counts supplied here are used to normalise data (where applicable).

Summary of Abbreviations

CR: Chromite
DC: Cr-diopside
FO: Forsteritic olivine
GO: Eclogitic Garnet
GP: Cr-pyrope garnet
IM: Ilmenite
KIMs: Kimberlite Indicator Minerals

*** Numbers in brackets are estimated total indicator grains present in samples where not all of the grains were picked.

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	
			***																***	***	***	
0028	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	8	0	9
0029	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2
0030	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	38(100)	0	101
0108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0109	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0110	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	11	0	12
0111	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	18(25)	0	26
0112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0113	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0114	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0115	0	0	2	0	0	0	0	0	0	1	0	0	0	1	1	3	0	1	0	0	0	6
0116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3
0117	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	7
0251	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0277	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0279	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0281	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0282	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4
0283	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0284	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0285	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0286	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0287	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0288	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0289	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
0290	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0291	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0292	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0293	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0294	No sample	No sample	0	No sample						No sample						0	0	0	0	0	0	0
0295	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0296	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0297	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0298	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0299	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0312	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
0339	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0341	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0342	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0343	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0344	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0345	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0346	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0347	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0348	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0349	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0350	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0351	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0352	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0353	0	0	22(40)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0354	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0355	No sample	No sample	0	No sample						No sample						0	0	0	0	0	0	0
0356	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0357	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0358	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0359	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0360	0	2	19	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0361	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	
			***																***	***	***	
0362	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0363	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0364	No sample	0	1	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0365	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0366	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0367	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0368	0	19	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
0369	No sample	No sample	0	No sample						No sample						0	0	0	0	0	0	0
0370	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0371	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	4	0	6
0372	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0373	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	1
0374	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	18(30)	1	31
0375	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	8(15)	0	15
0376	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0378	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0379	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0380	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
0381	No sample	No sample	0	No sample						No sample						0	0	0	0	0	0	0
0382	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0383	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	14(20)	0	22
0384	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0385	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
0386	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0387	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0388	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0389	No sample	No sample	0	No sample						No sample						0	0	0	0	0	0	0
0390	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0391	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0392	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0393	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0394	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0395	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0396	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0397	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0398	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0399	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
0400	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0401	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0402	No sample	No sample	0	No sample						No sample						0	0	0	0	0	0	0
0403	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0404	0	1	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	3	0	0	0	5
0405	0	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0406	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0407	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0408	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0409	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
0410	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0411	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0412	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0413	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0414	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0415	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
0416	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	6
0417	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0418	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0419	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0421	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	
			***																***	***	***	
0422	No sample	No sample	0	No sample						No sample						0	0	0	0	0	0	0
0423	No sample	No sample	0	No sample						No sample						0	0	0	0	0	0	0
0424	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
0425	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0426	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0427	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0428	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0429	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0431	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0432	0	5	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0433	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0451	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0452	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0453	0	0	0	No sample						No sample						0	0	0	0	0	0	0
0454	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0455	No sample	No sample	0	No sample						No sample						0	0	0	0	0	0	0
0456	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0457	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0458	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0459	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0460	No sample	No sample	0	No sample						No sample						0	0	0	0	0	0	0
0461	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0462	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0463	No sampleN	0	0	No sample						No sample						0	0	0	0	0	0	0
0464	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0465	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0466	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0467	0	0	15(40)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0468	No Sample	0	7	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0469	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0470	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0471	0	2	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0472	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0473	0	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	1
0474	No Sample	0	7	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0501	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0502	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0503	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0504	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0505	No sample	0	0	No sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0506	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0507	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0508	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0509	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0510	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0511	0	0	11	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
0512	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0513	0	0	19	0	0	0	0	0	0	0	0	0	2(10)	1(5)	0	0	0	0	1(15)	33(200)	0	215
0513 ****	Proportion split for picking																					
0516	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
0517	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0518	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0519	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0520	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
0521	0	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
0522	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0523	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0533	0	4	20(30)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0534	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	
			***																***	***	***	
0557	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0563	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1
0564	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0565	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0571	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0572	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0573	No Sample	0	4	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0579	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0580	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0581	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0582	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0583	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0584	0	1	13	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	2(5)	0	9
0585	0	1	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0586	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0587	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0(60	0
0588	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0590	0	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
0591	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0592	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0593	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0594	1	0	28	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3(5)	0	7
0595	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6(80)	0	80
0596	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0597	0	0	25(50)	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	3(20)	0	21
0608	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0609	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0610	0	0	10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
0611	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
0612	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0613	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0614	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0615	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	4
0616	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0617	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
0618	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0619	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0620	No Sample	0	2	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0621	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0622	No Sample	0	5	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0623	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0624	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
0625	0	1	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6(15)	0	15
0626	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
0627	0	0	25(50)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0628	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0629	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0632	0	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0633	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0634	0	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0637	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0638	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0639	No Sample	0	5	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0640	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0641	0	1	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0642	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0643	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0644	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2(5)	7	5
0645	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0646	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	
			***																***	***	***	
0647	No Sample	0	9	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0648	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0649	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0650	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0651	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0652	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0653	0	3	22	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	15(30)	0	35
0654	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
0655	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0656	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0657	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0658	0	2	14	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	35(60)	6	65
0659	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0660	0	0	8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	29(50)	0	52
0661	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0662	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0663	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
0664	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0665	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0666	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0667	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0668	0	2	21	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3
0669	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0670	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0671	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0672	0	2	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
0673	0	2	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0674	0	3	7	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	2	0	6
0675	1	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1
0676	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0677	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0678	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0679	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0680	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0681	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0682	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11(20)	0	20
0683	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0684	0	1	11	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	2	0	4
0685	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0686	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	5(15)	0	18
0687	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
0688	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0689	No Sample	0	5	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0702	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0703	No Sample	0	2	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0704	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
0705	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0706	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0707	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0708	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6(20)	0	20
0709	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0710	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
0713	1	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15(30)	0	30
0714	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0720	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0721	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0722	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0723	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0724	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0725	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	
			***																***	***	***	
0726	No Sample	0	3	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0727	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0728	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0729	0	3	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0731	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0732	No Sample	0	1	No Sample						No Sample						0	0	0	0	0	0	0
0733	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0734	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0735	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0736	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0738	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0739	0	18	27	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	3
0740	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0741	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0742	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0743	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0744	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0745	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0746	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	1	0	1
0747	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0748	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
0749	No Sample	No Sample	1	No Sample						No Sample						0	0	0	0	0	0	0
0750	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0751	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0752	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0753	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
0754	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0755	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0757	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0758	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0759	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0760	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0761	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0762	1	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6
0763	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	3
0764	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0765	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0766	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0767	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0768	No Sample	0	2	No Sample						0	0	0	0	0	0	0	0	0	0	2	0	2
0769	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0770	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
0771	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0772	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0773	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0774	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0775	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
0776	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0777	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0778	No Sample		1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0779	0	0	7	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	15(25)	0	28
0780	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0781	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0782	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0783	0	0	22(30)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0784	0	1	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
0785	0	3	20(40)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	
			***																***	***	***	
0786	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3(10)	0	10
0787	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0788	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0789	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0791	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0792	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0793	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0794	No Sample	0	5	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0795	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1(5)	0	5
0796	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
0851	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0852	0	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
0853	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0854	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0855	No Sample	0	2	No Sample						0	0	0	0	0	0	1	0	0	0	0	0	1
0856	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0857	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0858	0	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
0859	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0860	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0861	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0862	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0863	0	1	5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	10(15)	0	16
0864	2	12	15(40)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0865	No Sample	0	2	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0866	0	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0867	0	4	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
0868	0	5	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0869	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0870	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0871	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0872	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0873	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0874	No Sample	0	2	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0875	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0876	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0877	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0878	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
0879	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0880	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0881	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0882	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0883	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0884	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1
0885	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0886	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0887	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0888	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0889	0	3	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
0890	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0891	No Sample	1	16	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0892	0	0	10	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	6(30)	0	32
0893	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
0894	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0895	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0896	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0897	0	6	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0898	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0899	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0900	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	
			***																***	***	***	
0901	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0902	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0903	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0904	No Sample	0	2	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0905	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0906	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0907	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0908	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0909	0	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0910	No Sample	0	4	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0911	0	4	20(35)	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
0912	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0913	0	3	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0914	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0915	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0916	0	16	22	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	3	5
0917	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0918	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0919	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3
0920	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0921	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0922	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	2	4
0923	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0924	0	3	30(50)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3
0925	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0926	0	3	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0927	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0928	0	2	16	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	12	1	16
0929	0	7	29	0	0	0	0	0	0	0	0	0	6	1	0	2	0	0	0	16(80)	0	89
0930	0	0	8	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
0931	0	2	21	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	3
0932	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0933	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0934	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0935	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0936	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0937	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0938	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0942	0	1	16	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	6	0	7
0943	0	0	20	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	8(20)	0	23
0944	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9
0945	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
0946	0	1	11	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	8(20)	0	21
0947	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0948	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0949	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
0950	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	2	0	2
1026	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1027	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1028	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1029	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1031	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1032	0	6	20(40)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1034	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1099	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
1100	0	0	1	0	0	0	0	0	0	0	0	0	2	2	0	1	0	0	2	32(150)	0	155
1114	0	0	0	0	0	0	0	0	0	0	1	0	1	3	0	5	3	0	0	23(40)	0	50
1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO	GP	GO	DC	IM	CR	FO	
			***																***	***	***	
1116	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1117	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
1118	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1119	0	0	20(40)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
1120	0	0	30(100)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6(10)	0	10
1121	0	0	20(50)	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3
1122	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1123	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8
1124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1125	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1128	0	10(30)	20(100)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
1129	0	0	20(150)	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	10(20)	0	23
1130	0	33	40(300)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
1131	0	0	20(40)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8
1132	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4

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APPENDIX C: Kimberlite Indicator Minerals in 496 Modern Alluvium Samples from the Foleyet Area. Data are Presented as Raw and Normalised Values.

Summary of Abbreviations:

Ecl:	Eclogitic garnet
GI:	Group I
GII:	Group II
GIII:	Group III
GIV:	Group IV.
G9:	Group 9 lherzolitic garnet
G10:	Group 10 harzburgitic garnet
Kg:	Kilogram
KIM:	Kimberlite Indicator Mineral
Meg:	Megacrystic
MEL?:	Possibly from melnoite
N:	Normalised data
N factor:	Normalisation factor (based on estimated versus picked data)
OVL:	Overlap compositional field
R:	Raw Data

Sample	Table Feed	UTM		Garnet						Chromite						
											KIM		MEL?		OVL	
KAP-	(kg)	Easting	Northing	G10	G9	Meg	Ecl	Crst	KIM	norm factor	R	N	R	N	R	N
0028	6.4	220737	5354365	0	0	0	0	0	0	1.0	2	2	5	5	2	2
0029	5.1	222750	5354150	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0030	15.3	226534	5351047	0	1	0	0	0	1	2.6	2	5	28	74	8	21
0108	14.9	241594	5372297	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0109	12	239920	5370943	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0110	11.6	239304	5368722	0	0	0	0	1	0	1.0	0	0	4	4	6	6
0111	12.6	239113	5364725	0	0	0	0	1	0	1.4	0	0	12	17	3	4
0112	15.7	238919	5363334	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0113	19.4	234629	5361346	0	1	0	0	0	1	1.0	0	0	0	0	0	0
0114	14.6	217528	5359219	0	1	0	0	0	1	1.0	0	0	1	1	1	1
0115	9.9	228384	5357062	0	4	0	0	0	4	1.0	1	1	0	0	0	0
0116	9.9	238390	5360624	0	0	0	0	0	0	1.0	0	0	2	2	0	0
0117	12.2	247802	5367244	0	1	0	0	1	1	1.0	0	0	6	6	0	0
0251	9.8	334874	5324311	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0277	12.3	281596	5327369	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0279	13.8	297248	5334391	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0280	9.9	294092	5329302	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0281	12.4	304839	5328933	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0282	11.2	304730	5328948	0	1	0	0	0	1	1.0	0	0	2	2	0	0
0283	9.1	306710	5323265	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0284	11.7	306128	5335100	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0285	12.2	302941	5342562	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0286	12.1	297344	5352187	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0287	13.2	287960	5348661	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0288	12.5	283008	5339395	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0289	13.7	291007	5341866	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0290	13.6	289250	5339786	0	1	0	0	0	1	1.0	0	0	0	0	0	0
0291	9.8	287571	5339350	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0292	8.7	284943	5335162	0	0	0	0	1	0	1.0	0	0	0	0	0	0
0293	10.6	283335	5335274	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0294	10.3	303154	5370949	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0295	12.8	294914	5381433	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0296	12.9	295818	5385724	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0297	11.6	302794	5382644	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0298	15.3	302769	5382690	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0299	13.5	311788	5381444	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0300	13.1	313349	5385223	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0312	11.6	352043	5324807	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0339	10.8	276773	5324779	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0341	12	295085	5334924	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0342	12.3	295866	5330391	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0343	12.2	299130	5327864	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0344	16.2	302576	5325592	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0345	10.2	308446	5327199	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0346	10.5	304514	5340216	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0347	17.4	288180	5347324	0	0	0	0	1	0	1.0	1	1	0	0	0	0
0348	3.9	231608	5361320	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0349	13.7	220032	5365251	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0350	12.1	217778	5364797	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0351	12.7	245653	5365941	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0352	12.3	265547	5373590	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0353	10.3	274250	5373188	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0354	16.4	273090	5373033	0	1	0	0	0	1	1.0	0	0	0	0	0	0
0355	9.8	274592	5375611	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0356	7	283163	5360603	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0357	9.3	294900	5375522	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0358	6.1	290264	5382666	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0359	17	297674	5384655	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0360	9.8	309614	5382370	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0361	16.8	311919	5384451	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0362	16	313033	5385998	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0363	14.4	314651	5391319	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0364	13.3	314952	5395554	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0365	17.4	316657	5396236	0	0	0	0	0	0	1.0	0	0	0	0	0	0

Sample	Ilmenite					Cr-diopside											Olivine					Total KIMs	
		KIM		OTHER			KIM		GI		GII		GIII		GIV			KIM		OTHER			
KAP-	N factor	R	N	R	N	N factor	R	N	R	N	R	N	R	N	R	N	N factor	R	N	R	N	R	N
0028	1.0	0	0	2	2	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	2	2
0029	1.0	1	1	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0030	1.0	0	0	1	1	1.0	0	0	0	0	1	1	0	0	3	3	1.0	0	0	0	0	3	6
0108	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0109	1.0	0	0	0	0	1.0	0	0	1	1	0	0	1	1	1	1	1.0	0	0	0	0	0	0
0110	1.0	0	0	2	2	1.0	0	0	0	0	0	0	0	0	2	2	1.0	0	0	0	0	0	0
0111	1.0	0	0	0	0	1.0	0	0	1	1	0	0	2	2	2	2	1.0	0	0	0	0	0	0
0112	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0113	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	1	1
0114	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	3	3	1.0	0	0	0	0	1	1
0115	1.0	0	0	0	0	1.0	1	1	0	0	1	1	0	0	1	1	1.0	0	0	0	0	6	6
0116	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0117	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	2	2	1.0	0	0	0	0	1	1
0251	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0277	1.0	0	0	0	0	1.0	0	0	0	0	0	0	4	4	3	3	1.0	0	0	0	0	0	0
0279	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0280	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0281	1.0	0	0	0	0	1.0	0	0	1	1	0	0	3	3	0	0	1.0	0	0	0	0	0	0
0282	1.0	0	0	0	0	1.0	0	0	1	1	1	1	4	4	1	1	1.0	0	0	0	0	1	1
0283	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0284	1.0	0	0	0	0	1.0	0	0	0	0	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0285	1.0	0	0	0	0	1.0	0	0	0	0	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0286	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0287	1.0	0	0	0	0	1.0	0	0	1	1	0	0	4	4	0	0	1.0	0	0	0	0	0	0
0288	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0289	1.0	0	0	0	0	1.0	1	1	3	3	1	1	6	6	0	0	1.0	0	0	0	0	1	1
0290	1.0	0	0	0	0	1.0	0	0	2	2	0	0	3	3	1	1	1.0	0	0	0	0	1	1
0291	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0292	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0293	1.0	0	0	0	0	1.0	0	0	0	0	1	1	1	1	0	0	1.0	0	0	0	0	0	0
0294	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0295	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0296	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0297	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0298	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0299	1.0	0	0	0	0	1.0	0	0	1	1	1	1	0	0	0	0	1.0	0	0	0	0	0	0
0300	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0312	1.0	0	0	0	0	1.0	1	1	0	0	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0339	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	3	3	1.0	0	0	0	0	0	0
0341	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0342	1.0	0	0	0	0	1.0	0	0	0	0	2	2	0	0	0	0	1.0	0	0	0	0	0	0
0343	1.0	0	0	0	0	1.0	0	0	1	1	0	0	1	1	1	1	1.0	0	0	0	0	0	0
0344	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0345	1.0	0	0	1	1	1.0	0	0	2	2	2	2	2	2	2	2	1.0	0	0	0	0	0	0
0346	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0347	1.0	0	0	0	0	1.0	0	0	0	0	2	2	5	5	0	0	1.0	0	0	0	0	1	1
0348	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0349	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0350	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0351	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0352	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0353	1.0	0	0	0	0	1.8	0	0	0	0	0	0	0	0	19	35	1.0	0	0	0	0	0	0
0354	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	4	4	1.0	0	0	0	0	1	1
0355	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0356	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0357	1.0	0	0	0	0	1.0	0	0	0	0	0	0	3	3	0	0	1.0	0	0	0	0	0	0
0358	1.0	0	0	1	1	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0359	1.0	0	0	0	0	1.0	0	0	2	2	1	1	1	1	2	2	1.0	0	0	0	0	0	0
0360	1.0	0	0	0	0	1.0	0	0	0	0	14	14	4	4	3	3	1.0	0	0	0	0	0	0
0361	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0362	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0363	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0364	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0365	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	0	0

Sample	Table Feed	UTM		Garnet						Chromite						
											KIM		MEL?		OVL	
KAP-	(kg)	Easting	Northing	G10	G9	Meg	Ecl	Crst	KIM	norm factor	R	N	R	N	R	N
0366	15.3	319686	5399211	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0367	14.4	321445	5395406	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0368	9.7	325484	5397354	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0369	13.5	284545	5395461	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0370	13.3	284600	5395426	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0371	12.2	256202	5398974	0	1	0	0	1	1	1.0	0	0	3	3	2	2
0372	17.9	292116	5399377	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0373	15.5	291830	5396486	0	1	1	0	2	2	1.0	0	0	0	0	0	0
0374	9.3	296587	5399821	0	0	0	0	1	0	1.7	0	0	5	8	8	13
0375	4.65	306158	5398700	0	0	0	0	4	0	1.9	2	4	5	9	4	8
0376	18	303573	5406205	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0377	11.5	307045	5406805	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0378	13	309215	5402002	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0379	11.3	314818	5406549	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0380	5.15	291007	5399969	0	0	0	0	0	0	1.0	0	0	3	3	0	0
0381	16.5	260854	5407744	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0382	8.5	262236	5411285	0	0	0	0	0	0	1.0	1	1	0	0	0	0
0383	17.3	270373	5418989	0	1	0	0	4	1	1.5	0	0	5	8	9	14
0384	13.1	271975	5419717	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0385	13.8	273851	5412245	0	0	0	0	1	0	1.0	0	0	0	0	0	0
0386	14.8	272831	5410151	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0387	11.1	272008	5397155	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0388	12.3	290250	5366312	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0389	16	277921	5390074	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0390	12.8	272760	5383303	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0391	14.9	269283	5369167	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0392	12	296909	5377715	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0393	9.7	295600	5365322	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0394	11.8	292485	5362241	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0395	12.5	276844	5366140	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0396	12.6	276909	5366640	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0397	14.2	274182	5366474	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0398	14.3	272713	5366056	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0399	11.8	263019	5387509	0	0	0	0	0	0	1.0	2	2	2	2	2	2
0400	16.6	262846	5382386	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0401	12.1	313783	5387943	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0402	12.8	314895	5393674	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0403	10.2	311879	5396671	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0404	8.4	318408	5397914	0	1	0	0	0	1	1.0	0	0	0	0	0	0
0405	9	319819	5399509	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0406	12.4	322593	5394919	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0407	12.8	326283	5395840	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0408	15	286710	5397044	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0409	14.9	286753	5405519	0	1	0	0	2	1	1.0	0	0	0	0	1	1
0410	15.2	291320	5404100	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0411	12	294115	5400091	0	0	0	0	2	0	1.0	0	0	0	0	0	0
0412	14.1	297027	5394133	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0413	12	297698	5402677	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0414	12.8	302816	5403918	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0415	15.9	302803	5403965	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0416	13.5	305037	5407562	0	1	0	0	0	1	1.0	0	0	3	3	1	1
0417	11.2	311859	5406558	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0418	15.5	311904	5406579	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0419	13.9	309105	5403461	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0420	11.8	263213	5405060	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0421	12.5	261883	5409965	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0422	12.1	265387	5414186	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0423	14.4	271400	5419504	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0424	9.9	270628	5414262	0	0	0	0	0	0	1.0	0	0	3	3	0	0
0425	15.1	276045	5413692	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0426	12.9	264739	5392823	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0427	8	271793	5393705	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0428	12.3	275697	5386863	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0429	13	268240	5375106	0	0	0	0	0	0	1.0	0	0	0	0	0	0

Sample	Ilmenite					Cr-diopside											Olivine					Total KIMs	
		KIM		OTHER			KIM		GI		GII		GIII		GIV			KIM		OTHER			
KAP-	N factor	R	N	R	N	N factor	R	N	R	N	R	N	R	N	R	N	N factor	R	N	R	N	R	N
0366	1.0	0	0	0	0	1.0	0	0	4	4	0	0	3	3	0	0	1.0	0	0	0	0	0	0
0367	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0368	1.0	0	0	2	2	1.0	0	0	15	15	0	0	24	24	9	9	1.0	0	0	0	0	0	0
0369	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0370	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0371	1.0	0	0	1	1	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0372	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0373	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	2	2
0374	1.0	1	1	5	5	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	1	1
0375	1.0	1	1	3	3	1.0	0	0	1	1	0	0	2	2	2	2	1.0	0	0	0	0	3	5
0376	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0377	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0378	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0379	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0380	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0381	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0382	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0383	1.0	0	0	5	5	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0384	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0385	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	4	4	1.0	0	0	0	0	0	0
0386	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0387	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0388	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0389	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0390	1.0	0	0	0	0	1.0	1	1	0	0	0	0	0	0	1	1	1.0	0	0	0	0	1	1
0391	1.0	0	0	0	0	1.0	0	0	1	1	0	0	1	1	17	17	1.0	0	0	0	0	0	0
0392	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0393	1.0	0	0	0	0	1.0	0	0	2	2	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0394	1.0	0	0	0	0	1.0	0	0	1	1	2	2	3	3	0	0	1.0	0	0	0	0	0	0
0395	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	2	2	1.0	0	0	0	0	0	0
0396	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0397	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0398	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0399	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	2	2
0400	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0401	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0402	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0403	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0404	1.0	1	1	0	0	1.0	0	0	0	0	0	0	4	4	2	2	1.0	0	0	0	0	2	2
0405	1.0	0	0	0	0	1.0	0	0	1	1	0	0	12	12	0	0	1.0	0	0	0	0	0	0
0406	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0407	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0408	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0409	1.0	0	0	1	1	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0410	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0411	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0412	1.0	0	0	0	0	1.0	0	0	0	0	0	0	2	2	9	9	1.0	0	0	0	0	0	0
0413	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	2	2	1.0	0	0	0	0	0	0
0414	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0415	1.0	0	0	0	0	1.0	1	1	0	0	0	0	1	1	1	1	1.0	0	0	0	0	1	1
0416	1.0	1	1	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	2	2
0417	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0418	1.0	0	0	0	0	1.0	0	0	0	0	1	1	0	0	0	0	1.0	0	0	0	0	0	0
0419	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0420	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0421	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0422	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0423	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0424	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0425	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0426	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0427	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0428	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0429	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0

Sample	Table Feed	UTM		Garnet						Chromite						
											KIM		MEL?		OVL	
KAP-	(kg)	Easting	Northing	G10	G9	Meg	Ecl	Crst	KIM	norm factor	R	N	R	N	R	N
0430	12.4	274769	5368486	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0431	12.6	269273	5375442	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0432	10.4	277183	5376642	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0433	16.4	274335	5384479	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0451	10.9	300050	5377210	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0452	9.8	297194	5387065	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0453	9.7	300894	5381119	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0454	8.7	305287	5380819	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0455	12.3	305272	5381048	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0456	14.4	258585	5370196	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0457	11	259177	5368594	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0458	9.7	265562	5373113	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0459	8.8	260451	5399216	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0460	10.8	258269	5397849	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0461	6.1	257049	5394440	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0462	13.4	252205	5388302	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0463	9.7	264284	5398710	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0464	9.5	277808	5358317	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0465	9.8	285507	5354038	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0466	7	286273	5355255	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0467	14.5	340854	5359719	0	0	0	0	1	0	1.0	0	0	0	0	0	0
0468	15.5	339961	5359381	0	0	0	0	2	0	1.0	0	0	0	0	0	0
0469	9.1	338247	5358728	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0470	10	342833	5364236	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0471	12.1	336205	5356792	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0472	12.6	322671	5360079	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0473	9.6	318867	5361699	0	1	0	0	0	1	1.0	0	0	1	1	1	1
0474	15.7	317669	5354598	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0501	11	265013	5368048	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0502	13.8	280917	5369040	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0503	13	290963	5334828	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0504	11.1	290451	5325179	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0505	8.8	298720	5320478	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0506	15.5	298376	5321328	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0507	13.8	294742	5344971	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0508	5.2	302218	5337116	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0509	11.5	304655	5332284	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0510	11.9	308633	5331069	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0511	13.3	310635	5337597	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0512	9.5	317926	5330521	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0513	9.8	316742	5328880	0	0	0	0	0	0	6.2	0	0	21	130	9	56
0516	14.2	309892	5320994	0	0	0	0	0	0	1.0	0	0	1	1	1	1
0517	16.8	318310	5332537	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0518	15.8	322377	5331367	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0519	16.4	321632	5325048	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0520	10.6	328965	5341840	0	0	0	0	0	0	1.0	0	0	2	2	0	0
0521	17.7	329115	5335910	0	0	0	0	1	0	1.0	0	0	0	0	2	2
0522	13.1	334099	5331602	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0523	11.8	332549	5333028	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0533	21.1	335463	5345487	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0534	11.4	332266	5335121	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0557	20.1	318376	5321369	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0563	13	350686	5342231	0	0	0	0	0	0	1.0	0	0	1	1	1	1
0564	17.2	346071	5336019	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0565	18.9	339505	5333365	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0571	13.9	347226	5377480	0	1	0	0	0	1	1.0	0	0	0	0	0	0
0572	16.2	348947	5370891	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0573	11.1	333253	5354402	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0579	18.5	326315	5364477	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0580	11.3	358847	5320030	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0581	12.2	337424	5344523	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0582	7.3	337252	5344531	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0583	12.5	359988	5327802	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0584	13.4	350106	5323846	0	0	0	0	0	0	4.0	0	0	1	4	4	16

Sample	Ilmenite					Cr-diopside											Olivine					Total KIMs	
		KIM		OTHER			KIM		GI		GII		GIII		GIV			KIM		OTHER			
KAP-	N factor	R	N	R	N	N factor	R	N	R	N	R	N	R	N	R	N	N factor	R	N	R	N	R	N
0430	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0431	1.0	0	0	0	0	1.0	0	0	0	0	1	1	0	0	2	2	1.0	0	0	0	0	0	0
0432	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	19	19	1.0	0	0	0	0	0	0
0433	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	2	2	1.0	0	0	0	0	0	0
0451	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0452	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0453	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0454	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0455	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0456	1.0	0	0	0	0	1.0	0	0	1	1	0	0	1	1	1	1	1.0	0	0	0	0	0	0
0457	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0458	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	7	7	1.0	0	0	0	0	0	0
0459	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0460	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0461	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0462	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0463	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0464	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0465	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0466	1.0	0	0	2	2	1.0	0	0	2	2	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0467	1.0	0	0	0	0	2.7	0	0	4	11	0	0	10	27	1	3	1.0	0	0	0	0	0	0
0468	1.0	0	0	0	0	1.0	0	0	3	3	0	0	5	5	0	0	1.0	0	0	0	0	0	0
0469	1.0	0	0	0	0	1.0	0	0	0	0	0	0	2	2	1	1	1.0	0	0	0	0	0	0
0470	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0471	1.0	0	0	0	0	1.0	0	0	3	3	0	0	5	5	0	0	1.0	0	0	0	0	0	0
0472	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0473	1.0	0	0	0	0	1.0	0	0	2	2	1	1	0	0	1	1	1.0	0	0	0	0	1	1
0474	1.0	0	0	0	0	1.0	0	0	2	2	1	1	2	2	2	2	1.0	0	0	0	0	0	0
0501	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0502	1.0	0	0	0	0	1.0	0	0	0	0	1	1	0	0	1	1	1.0	0	0	0	0	0	0
0503	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	1	1	1.0	0	0	0	0	0	0
0504	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0505	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0506	1.0	0	0	0	0	1.0	0	0	0	0	2	2	1	1	0	0	1.0	0	0	0	0	0	0
0507	1.0	0	0	0	0	1.0	0	0	0	0	1	1	2	2	0	0	1.0	0	0	0	0	0	0
0508	1.0	0	0	0	0	1.0	0	0	1	1	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0509	1.0	0	0	0	0	1.0	0	0	2	2	0	0	3	3	0	0	1.0	0	0	0	0	0	0
0510	1.0	0	0	1	1	1.0	0	0	1	1	1	1	6	6	1	1	1.0	0	0	0	0	0	0
0511	1.0	1	1	2	2	1.0	0	0	1	1	1	1	8	8	1	1	1.0	0	0	0	0	1	1
0512	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0513	8.3	2	17	3	25	1.0	0	0	6	6	0	0	9	9	4	4	1.0	0	0	0	0	2	17
0516	1.0	0	0	0	0	1.0	0	0	4	4	1	1	5	5	1	1	1.0	0	0	0	0	0	0
0517	1.0	0	0	0	0	1.0	0	0	0	0	0	0	7	7	0	0	1.0	0	0	0	0	0	0
0518	1.0	0	0	0	0	1.0	0	0	1	1	0	0	1	1	2	2	1.0	0	0	0	0	0	0
0519	1.0	0	0	0	0	1.0	0	0	2	2	0	0	3	3	3	3	1.0	0	0	0	0	0	0
0520	1.0	0	0	0	0	1.0	0	0	3	3	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0521	1.0	0	0	0	0	1.0	0	0	2	2	1	1	6	6	2	2	1.0	0	0	0	0	0	0
0522	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0523	1.0	0	0	0	0	1.0	0	0	0	0	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0533	1.0	0	0	0	0	1.4	0	0	6	9	0	0	14	20	2	3	1.0	0	0	0	0	0	0
0534	1.0	0	0	0	0	1.0	0	0	0	0	0	0	3	3	0	0	1.0	0	0	0	0	0	0
0557	1.0	0	0	0	0	1.0	0	0	5	5	0	0	10	10	2	2	1.0	0	0	0	0	0	0
0563	1.0	0	0	0	0	1.0	0	0	7	7	0	0	17	17	0	0	1.0	0	0	0	0	0	0
0564	1.0	0	0	0	0	1.0	0	0	3	3	0	0	4	4	2	2	1.0	0	0	0	0	0	0
0565	1.0	0	0	0	0	1.0	0	0	1	1	0	0	5	5	0	0	1.0	0	0	0	0	0	0
0571	1.0	0	0	0	0	1.0	0	0	2	2	1	1	6	6	0	0	1.0	0	0	0	0	1	1
0572	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0573	1.0	0	0	0	0	1.0	0	0	1	1	0	0	4	4	0	0	1.0	0	0	0	0	0	0
0579	1.0	0	0	0	0	1.0	0	0	1	1	0	0	7	7	2	2	1.0	0	0	0	0	0	0
0580	1.0	0	0	0	0	1.0	1	1	2	2	0	0	2	2	0	0	1.0	0	0	0	0	1	1
0581	1.0	0	0	0	0	1.0	0	0	2	2	1	1	2	2	3	3	1.0	0	0	0	0	0	0
0582	1.0	0	0	0	0	1.0	0	0	1	1	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0583	1.0	0	0	0	0	1.0	0	0	2	2	0	0	1	1	2	2	1.0	0	0	0	0	0	0
0584	1.0	1	1	0	0	1.0	0	0	7	7	1	1	3	3	3	3	1.0	0	0	0	0	1	1

Sample	Table Feed	UTM		Garnet						Chromite						
											KIM		MEL?		OVL	
KAP-	(kg)	Easting	Northing	G10	G9	Meg	Ecl	Crst	KIM	norm factor	R	N	R	N	R	N
0585	11.8	355157	5350004	0	0	0	0	1	0	1.0	0	0	0	0	0	0
0586	18.1	364884	5339074	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0587	10.1	364075	5339176	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0588	16.5	358371	5337401	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0590	15.8	372593	5325551	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0591	19.7	371442	5346466	0	0	0	0	1	0	1.0	0	0	0	0	0	0
0592	16.8	374971	5348934	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0593	17.3	371050	5351464	1	0	0	0	0	1	1.0	0	0	0	0	0	0
0594	15.5	367873	5347907	0	1	0	0	0	1	1.7	0	0	2	3	0	0
0595	9.7	365994	5337719	0	0	0	0	0	0	13.3	0	0	3	40	3	40
0596	18.5	371163	5332226	0	1	0	0	0	1	1.0	0	0	0	0	0	0
0597	18.8	367951	5341235	0	1	0	0	0	1	7.0	0	0	3	21	1	7
0608	9	419182	5354488	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0609	15.8	417035	5351879	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0610	16.7	416496	5352178	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0611	15.9	414527	5350229	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0612	13.9	414532	5350030	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0613	17.5	417096	5340918	0	0	0	0	1	0	1.0	0	0	0	0	0	0
0614	15.4	412813	5339333	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0615	14.9	407145	5372469	0	0	0	0	0	0	1.0	0	0	3	3	1	1
0616	15.5	414993	5378466	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0617	16.7	417634	5379910	0	0	0	0	0	0	1.0	0	0	4	4	1	1
0618	18.7	412747	5383044	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0619	19.9	405282	5378624	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0620	15.7	393951	5371298	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0621	15.4	378151	5356635	0	0	0	0	0	0	1.0	0	0	2	2	0	0
0622	17.1	411789	5371731	0	0	0	0	1	0	1.0	0	0	0	0	0	0
0623	19.6	417287	5359451	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0624	16.6	415060	5345502	0	0	0	0	2	0	1.0	0	0	1	1	1	1
0625	14.2	414181	5345385	0	0	0	0	0	0	2.5	0	0	3	8	2	5
0626	14.3	413571	5343198	0	0	0	0	0	0	1.0	0	0	2	2	1	1
0627	21.5	412194	5351339	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0628	13.6	388172	5362297	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0629	19.2	394207	5367126	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0632	14.5	342418	5321734	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0633	10.3	349873	5327456	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0634	13.6	347316	5327244	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0637	15	385543	5354864	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0638	15.1	385458	5354750	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0639	15.5	386360	5355620	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0640	17.3	388440	5354944	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0641	13.9	376506	5335825	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0642	11.6	384435	5340125	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0643	13.9	389065	5341226	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0644	17.5	392378	5344962	0	0	0	0	1	0	2.5	0	0	2	5	0	0
0645	17.8	393798	5340636	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0646	12.3	386017	5340270	0	0	0	0	0	0	1.0	0	0	3	3	0	0
0647	13.1	395850	5374746	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0648	14.2	395617	5371592	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0649	15.5	394876	5369560	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0650	16.5	394070	5365088	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0651	17.4	393789	5362091	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0652	19.4	393738	5362117	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0653	13.4	391294	5359869	0	0	0	0	0	0	2.3	2	4	8	18	10	23
0654	15	395566	5345904	0	0	0	0	0	0	1.0	0	0	9	9	1	1
0656	13.6	394810	5336788	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0657	18.1	397198	5342151	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0658	12.5	396871	5342098	0	0	0	0	0	0	1.8	2	4	15	27	18	32
0659	18.2	392821	5345130	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0660	13.7	410551	5338009	0	0	0	0	0	0	1.8	2	4	19	33	6	11
0661	16.2	411013	5338062	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0662	15.3	412948	5338756	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0663	17	392331	5346927	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0664	17.3	407068	5349763	0	0	0	0	0	0	1.0	0	0	0	0	0	0

Sample	Ilmenite					Cr-diopside											Olivine					Total KIMs	
		KIM		OTHER			KIM		GI		GII		GIII		GIV			KIM		OTHER			
KAP-	N factor	R	N	R	N	N factor	R	N	R	N	R	N	R	N	R	N	N factor	R	N	R	N	R	N
0585	1.0	0	0	0	0	1.0	0	0	7	7	1	1	5	5	4	4	1.0	0	0	0	0	0	0
0586	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0587	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.8	36	66	0	0	36	66
0588	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0590	1.0	0	0	0	0	1.0	0	0	4	4	1	1	3	3	8	8	1.0	1	1	0	0	1	1
0591	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0592	1.0	0	0	0	0	1.0	0	0	2	2	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0593	1.0	0	0	0	0	1.0	0	0	11	11	1	1	11	11	0	0	1.0	0	0	0	0	1	1
0594	1.0	0	0	0	0	1.0	1	1	6	6	1	1	14	14	8	8	1.0	0	0	0	0	2	2
0595	1.0	0	0	0	0	1.0	0	0	4	4	2	2	3	3	3	3	1.0	0	0	0	0	0	0
0596	1.0	0	0	0	0	1.0	1	1	0	0	0	0	2	2	1	1	1.0	0	0	0	0	2	2
0597	1.0	0	0	0	0	2.0	0	0	9	18	2	4	8	16	6	12	1.0	1	1	0	0	2	2
0608	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0609	1.0	0	0	0	0	1.0	0	0	4	4	1	1	2	2	0	0	1.0	0	0	0	0	0	0
0610	1.0	1	1	0	0	1.0	0	0	4	4	1	1	5	5	0	0	1.0	0	0	0	0	1	1
0611	1.0	0	0	0	0	1.0	0	0	1	1	0	0	1	1	0	0	1.0	0	0	1	1	0	0
0612	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0613	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0614	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0615	1.0	0	0	0	0	1.0	1	1	2	2	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0616	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0617	1.0	0	0	2	2	1.0	0	0	5	5	0	0	2	2	4	4	1.0	0	0	0	0	0	0
0618	1.0	0	0	0	0	1.0	0	0	3	3	1	1	0	0	0	0	1.0	0	0	0	0	0	0
0619	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0620	1.0	0	0	0	0	1.0	0	0	2	2	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0621	1.0	0	0	0	0	1.0	0	0	1	1	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0622	1.0	0	0	0	0	1.0	0	0	3	3	0	0	1	1	1	1	1.0	0	0	0	0	0	0
0623	1.0	0	0	0	0	1.0	0	0	2	2	0	0	0	0	2	2	1.0	0	0	0	0	0	0
0624	1.0	0	0	0	0	1.0	0	0	3	3	0	0	3	3	1	1	1.0	0	0	0	0	0	0
0625	1.0	0	0	0	0	1.0	0	0	9	9	2	2	7	7	0	0	1.0	0	0	0	0	0	0
0626	1.0	0	0	0	0	1.0	0	0	10	10	2	2	6	6	3	3	1.0	0	0	0	0	0	0
0627	1.0	0	0	0	0	2.0	0	0	13	26	2	4	5	10	4	8	1.0	0	0	0	0	0	0
0628	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0629	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0632	1.0	0	0	0	0	1.0	0	0	2	2	1	1	7	7	4	4	1.0	0	0	0	0	0	0
0633	1.0	0	0	0	0	1.0	0	0	8	8	0	0	4	4	6	6	1.0	0	0	0	0	0	0
0634	1.0	0	0	0	0	1.0	0	0	2	2	0	0	4	4	11	11	1.0	0	0	0	0	0	0
0637	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0638	1.0	0	0	0	0	1.0	0	0	2	2	1	1	1	1	0	0	1.0	0	0	0	0	0	0
0639	1.0	0	0	0	0	1.0	1	1	2	2	0	0	1	1	1	1	1.0	0	0	0	0	1	1
0640	1.0	0	0	0	0	1.0	0	0	7	7	1	1	0	0	0	0	1.0	0	0	0	0	0	0
0641	1.0	0	0	0	0	1.0	0	0	8	8	1	1	4	4	9	9	1.0	0	0	0	0	0	0
0642	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0643	1.0	0	0	0	0	1.0	0	0	4	4	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0644	1.0	0	0	0	0	1.0	1	1	12	12	0	0	4	4	4	4	1.0	2	2	5	5	3	3
0645	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0646	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0647	1.0	0	0	0	0	1.0	0	0	1	1	0	0	1	1	7	7	1.0	0	0	0	0	0	0
0648	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0649	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0650	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0651	1.0	0	0	0	0	1.0	0	0	2	2	2	2	1	1	1	1	1.0	0	0	0	0	0	0
0652	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0653	1.0	0	0	2	2	1.0	0	0	17	17	0	0	4	4	5	5	1.0	0	0	0	0	2	4
0654	1.0	0	0	0	0	1.0	1	1	3	3	0	0	2	2	4	4	1.0	0	0	0	0	1	1
0656	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0657	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0658	1.0	4	4	4	4	1.0	0	0	7	7	1	1	3	3	5	5	1.0	3	3	2	2	9	11
0659	1.0	0	0	0	0	1.0	0	0	17	17	2	2	5	5	5	5	1.0	0	0	0	0	0	0
0660	1.0	0	0	1	1	1.0	1	1	3	3	1	1	4	4	0	0	1.0	0	0	0	0	3	5
0661	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0662	1.0	0	0	0	0	1.0	0	0	2	2	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0663	1.0	0	0	0	0	1.0	0	0	6	6	2	2	3	3	4	4	1.0	0	0	0	0	0	0
0664	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0

Sample	Table Feed	UTM		Garnet						Chromite						
				G10	G9	Meg	Ecl	Crst	KIM	norm factor	KIM		MEL?		OVL	
KAP-	(kg)	Easting	Northing								R	N	R	N	R	N
0665	12.7	402437	5343456	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0666	16.3	352455	5405341	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0667	20.1	350147	5397916	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0668	18.8	348287	5408937	0	2	0	0	0	2	1.0	0	0	2	2	0	0
0669	15.9	346610	5418580	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0670	17.5	346283	5418776	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0671	15	348086	5422481	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0672	8.4	360173	5415940	0	0	0	0	0	0	1.0	0	0	1	1	1	1
0673	19.6	357346	5415874	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0674	7.1	365136	5411344	0	1	0	0	0	1	1.0	0	0	3	3	1	1
0675	9.4	300478	5399340	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0676	8.4	296783	5403833	0	0	0	0	2	0	1.0	0	0	0	0	0	0
0677	11.9	300050	5404286	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0678	15.3	366476	5414709	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0679	11.7	298511	5416915	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0680	13.2	300476	5418790	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0681	17.5	290640	5424680	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0682	13	291575	5417750	0	0	0	0	0	0	1.8	0	0	5	9	2	4
0683	17	293605	5417496	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0684	13.8	294607	5415519	0	2	0	1	5	3	1.0	0	0	2	2	0	0
0685	15.7	284009	5434585	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0686	16.1	297368	5431806	0	2	0	0	0	2	3.0	0	0	1	3	1	3
0687	17.4	422679	5347317	0	0	0	0	0	0	1.0	0	0	3	3	2	2
0688	17	394063	5343131	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0689	16.9	394680	5344243	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0702	13.8	384378	5331156	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0703	13.9	381601	5329453	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0704	17.8	380647	5328930	0	0	0	0	0	0	1.0	0	0	1	1	1	1
0705	13.8	378433	5325739	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0706	16.4	376254	5324419	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0707	15.2	375175	5323432	0	1	0	0	0	1	1.0	0	0	0	0	0	0
0708	11.5	373019	5321361	0	0	0	0	0	0	3.3	0	0	4	13	2	7
0709	11.3	371162	5319869	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0710	12.7	370583	5319527	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0713	16.9	385734	5327733	0	0	0	0	0	0	2.0	1	2	6	12	7	14
0714	18	387003	5323961	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0720	13.4	390320	5354808	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0721	11.3	390550	5356058	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0722	18.1	390802	5353759	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0723	16.3	391004	5352923	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0724	21.4	392772	5351650	0	0	0	0	1	0	1.0	0	0	1	1	0	0
0725	16.8	396503	5325523	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0726	11.4	393753	5322819	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0727	16.8	371073	5402062	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0728	16.5	376393	5396971	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0729	11.4	380667	5397172	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0730	14.3	381994	5397227	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0731	16.6	384956	5397513	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0732	11.6	384926	5406404	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0733	15.2	384757	5406438	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0734	14.2	393222	5409544	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0735	16.7	393942	5412019	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0736	14.2	388166	5410554	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0737	16.7	388342	5418558	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0738	12	401047	5426403	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0739	12.6	365095	5411388	0	0	0	0	0	0	1.0	0	0	3	3	0	0
0740	17.7	366757	5415493	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0741	17.7	366091	5418525	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0742	16	365304	5421009	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0743	13.8	364845	5425534	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0744	14.4	365759	5426137	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0745	16.5	365750	5427385	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0746	11.7	310729	5425569	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0747	14.6	317256	5422619	0	0	0	0	0	0	1.0	0	0	0	0	0	0

Sample	Ilmenite					Cr-diopside											Olivine					Total KIMs	
		KIM		OTHER			KIM		GI		GII		GIII		GIV			KIM		OTHER			
KAP-	N factor	R	N	R	N	N factor	R	N	R	N	R	N	R	N	R	N	N factor	R	N	R	N	R	N
0665	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0666	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0667	1.0	0	0	0	0	1.0	0	0	2	2	0	0	5	5	10	10	1.0	0	0	0	0	0	0
0668	1.0	0	0	0	0	1.0	0	0	1	1	0	0	15	15	7	7	1.0	0	0	0	0	2	2
0669	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0670	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0671	1.0	0	0	0	0	1.0	0	0	0	0	0	0	3	3	1	1	1.0	0	0	0	0	0	0
0672	1.0	0	0	2	2	1.0	0	0	1	1	0	0	10	10	2	2	1.0	0	0	0	0	0	0
0673	1.0	0	0	0	0	1.0	0	0	3	3	0	0	9	9	6	6	1.0	0	0	0	0	0	0
0674	1.0	0	0	0	0	1.0	0	0	0	0	0	0	10	10	0	0	1.0	0	0	0	0	1	1
0675	1.0	1	1	0	0	1.0	0	0	0	0	2	2	3	3	4	4	1.0	0	0	0	0	1	1
0676	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0677	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0678	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0679	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0680	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0681	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0682	1.0	0	0	0	0	1.0	0	0	0	0	1	1	0	0	0	0	1.0	0	0	0	0	0	0
0683	1.0	0	0	0	0	1.0	0	0	1	1	0	0	2	2	6	6	1.0	0	0	0	0	0	0
0684	1.0	1	1	0	0	1.0	0	0	0	0	3	3	4	4	5	5	1.0	0	0	0	0	4	4
0685	1.0	1	1	0	0	1.0	0	0	0	0	0	0	0	0	4	4	1.0	0	0	0	0	1	1
0686	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	2	2
0687	1.0	0	0	0	0	1.0	0	0	1	1	0	0	1	1	3	3	1.0	0	0	0	0	0	0
0688	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0689	1.0	0	0	0	0	1.0	0	0	3	3	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0702	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0703	1.0	0	0	0	0	1.0	0	0	0	0	1	1	0	0	1	1	1.0	0	0	0	0	0	0
0704	1.0	0	0	0	0	1.0	0	0	3	3	0	0	3	3	7	7	1.0	0	0	0	0	0	0
0705	1.0	0	0	0	0	1.0	0	0	4	4	1	1	3	3	2	2	1.0	0	0	0	0	0	0
0706	1.0	0	0	0	0	1.0	0	0	8	8	0	0	2	2	11	11	1.0	0	0	0	0	0	0
0707	1.0	0	0	0	0	1.0	0	0	2	2	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0708	1.0	0	0	0	0	1.0	0	0	5	5	0	0	4	4	9	9	1.0	0	0	0	0	0	0
0709	1.0	0	0	0	0	1.0	0	0	6	6	0	0	1	1	2	2	1.0	0	0	0	0	0	0
0710	1.0	0	0	0	0	1.0	1	1	2	2	1	1	0	0	5	5	1.0	0	0	1	1	1	1
0713	1.0	1	1	1	1	1.0	0	0	5	5	1	1	2	2	2	2	1.0	0	0	0	0	2	3
0714	1.0	0	0	0	0	1.0	0	0	1	1	0	0	1	1	1	1	1.0	0	0	0	0	0	0
0720	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0721	1.0	0	0	0	0	1.0	0	0	7	7	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0722	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0723	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0724	1.0	0	0	0	0	1.0	1	1	3	3	0	0	1	1	2	2	1.0	0	0	0	0	1	1
0725	1.0	0	0	0	0	1.0	0	0	1	1	1	1	0	0	1	1	1.0	0	0	0	0	0	0
0726	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	2	2	1.0	0	0	0	0	0	0
0727	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0728	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0729	1.0	0	0	0	0	1.0	0	0	8	8	2	2	2	2	4	4	1.0	0	0	0	0	0	0
0730	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0731	1.0	0	0	0	0	1.0	0	0	4	4	0	0	4	4	0	0	1.0	0	0	0	0	0	0
0732	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0733	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0734	1.0	0	0	0	0	1.0	0	0	0	0	0	0	5	5	0	0	1.0	0	0	0	0	0	0
0735	1.0	0	0	0	0	1.0	0	0	0	0	0	0	2	2	1	1	1.0	0	0	0	0	0	0
0736	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0737	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0738	1.0	0	0	0	0	1.0	0	0	10	10	2	2	3	3	2	2	1.0	0	0	0	0	0	0
0739	1.0	1	1	3	3	1.0	0	0	6	6	0	0	34	34	4	4	1.0	0	0	0	0	1	1
0740	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0741	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0742	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0743	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0744	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0745	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0746	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0747	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0

Sample	Table Feed	UTM		Garnet						Chromite						
											KIM		MEL?		OVL	
KAP-	(kg)	Easting	Northing	G10	G9	Meg	Ecl	Crst	KIM	norm factor	R	N	R	N	R	N
0748	14.7	319656	5422669	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0749	13.4	321656	5419004	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0750	13.9	320560	5423569	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0751	11.5	288445	5412161	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0752	11.4	286307	5417314	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0753	10.6	391352	5414627	0	0	0	0	0	0	1.0	0	0	1	1	1	1
0754	14.3	391701	5417027	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0755	11.5	395253	5417819	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0756	12	400531	5419187	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0757	13.6	400464	5422145	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0758	11.6	393403	5412057	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0759	14	396988	5424469	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0760	18.5	409543	5387875	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0761	14.2	412103	5391519	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0762	16.3	412987	5394013	0	0	0	0	0	0	1.0	0	0	4	4	2	2
0763	16	412460	5392354	0	0	0	0	0	0	1.0	0	0	3	3	0	0
0764	15.2	413038	5388567	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0765	13.5	393638	5391480	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0766	16.6	394167	5384055	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0767	16.8	395003	5378096	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0768	16	396668	5382210	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0769	15	396303	5382071	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0770	15	408750	5380234	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0771	11.8	421702	5369719	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0772	15.9	421003	5373219	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0773	19.4	419838	5375269	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0774	17.3	419998	5376659	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0775	15.6	426510	5381064	0	0	0	0	0	0	1.0	0	0	2	2	1	1
0776	12.2	403336	5371518	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0777	12.4	421381	5359135	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0778	13.6	423040	5361504	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0779	13.7	422565	5366893	0	0	0	0	0	0	1.9	0	0	12	22	6	11
0780	11.9	421759	5351996	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0781	16.1	418718	5347801	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0782	18.7	389721	5338451	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0783	14.3	374404	5341878	0	1	0	0	0	1	1.0	0	0	0	0	0	0
0784	14.4	373154	5342574	0	0	0	0	0	0	1.0	0	0	1	1	1	1
0785	16.4	369914	5340628	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0786	10.9	370198	5341997	0	0	0	0	0	0	3.3	0	0	2	7	1	3
0787	12.9	388970	5349943	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0788	12	388897	5350038	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0789	14.7	390051	5333180	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0791	11	409134	5384628	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0792	13.6	408635	5384673	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0793	13.8	406408	5383761	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0794	14.4	403401	5385353	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0795	17.2	400885	5386144	0	0	0	0	0	0	5.0	0	0	0	0	1	5
0796	13.2	399970	5384684	0	0	0	0	0	0	1.0	0	0	2	2	3	3
0851	12.9	365092	5405994	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0852	10.6	364574	5402504	0	1	0	0	0	1	1.0	0	0	1	1	0	0
0853	11.1	360641	5398144	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0854	15.9	355286	5395159	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0855	17.6	351296	5392583	0	1	0	0	0	1	1.0	0	0	0	0	0	0
0856	12.5	348460	5389463	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0857	9.3	344159	5382681	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0858	10	333177	5428586	0	0	0	0	0	0	1.0	0	0	1	1	1	1
0859	16.2	330186	5421050	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0860	17	330210	5421049	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0861	12.6	323931	5415267	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0862	16.1	318417	5408826	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0863	8.5	319392	5402424	0	0	0	0	0	0	1.5	0	0	5	8	3	5
0864	8.6	363348	5404897	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0865	14.6	367935	5408631	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0866	10.8	365007	5397864	0	0	0	0	0	0	1.0	0	0	0	0	0	0

Sample	Ilmenite					Cr-diopside											Olivine					Total KIMs	
		KIM		OTHER			KIM		GI		GII		GIII		GIV			KIM		OTHER			
KAP-	N factor	R	N	R	N	N factor	R	N	R	N	R	N	R	N	R	N	N factor	R	N	R	N	R	N
0748	1.0	1	1	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0749	1.0	0	0	0	0	1.0	0	0	0	0	1	1	0	0	0	0	1.0	0	0	0	0	0	0
0750	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0751	1.0	0	0	0	0	1.0	0	0	0	0	1	1	3	3	0	0	1.0	0	0	0	0	0	0
0752	1.0	0	0	0	0	1.0	0	0	0	0	3	3	1	1	1	1	1.0	0	0	0	0	0	0
0753	1.0	0	0	0	0	1.0	0	0	1	1	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0754	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0755	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0756	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0757	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0758	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0759	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0760	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0761	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0762	1.0	0	0	2	2	1.0	0	0	1	1	0	0	13	13	0	0	1.0	0	0	0	0	0	0
0763	1.0	1	1	0	0	1.0	0	0	3	3	0	0	6	6	1	1	1.0	0	0	0	0	1	1
0764	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0765	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0766	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0767	1.0	0	0	0	0	1.0	0	0	3	3	0	0	3	3	0	0	1.0	0	0	0	0	0	0
0768	1.0	0	0	0	0	1.0	0	0	1	1	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0769	1.0	0	0	0	0	1.0	0	0	4	4	1	1	3	3	1	1	1.0	0	0	0	0	0	0
0770	1.0	0	0	0	0	1.0	1	1	5	5	1	1	0	0	0	0	1.0	0	0	0	0	1	1
0771	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0772	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0773	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0774	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0775	1.0	0	0	0	0	1.0	0	0	4	4	1	1	2	2	1	1	1.0	0	0	0	0	0	0
0776	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0777	1.0	0	0	0	0	1.0	0	0	0	0	1	1	0	0	0	0	1.0	0	0	0	0	0	0
0778	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0779	1.0	0	0	2	2	1.0	0	0	6	6	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0780	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0781	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0782	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0783	1.0	0	0	0	0	1.4	0	0	14	19	1	1	4	5	4	5	1.0	0	0	0	0	1	1
0784	1.0	0	0	0	0	1.0	0	0	11	11	2	2	4	4	8	8	1.0	0	0	0	0	0	0
0785	1.0	0	0	0	0	1.9	0	0	7	13	1	2	5	9	10	19	1.0	0	0	0	0	0	0
0786	1.0	0	0	0	0	1.0	0	0	5	5	1	1	6	6	4	4	1.0	0	0	0	0	0	0
0787	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0788	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0789	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0791	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0792	1.0	0	0	0	0	1.0	0	0	3	3	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0793	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0794	1.0	0	0	0	0	1.0	1	1	0	0	0	0	3	3	1	1	1.0	0	0	0	0	1	1
0795	1.0	0	0	0	0	1.0	1	1	17	17	0	0	4	4	3	3	1.0	0	0	0	0	1	1
0796	1.0	0	0	1	1	1.0	1	1	5	5	0	0	3	3	2	2	1.0	0	0	0	0	1	1
0851	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0852	1.0	0	0	0	0	1.0	0	0	1	1	0	0	8	8	0	0	1.0	0	0	1	1	1	1
0853	1.0	0	0	0	0	1.0	0	0	2	2	0	0	30	30	3	3	1.0	0	0	0	0	0	0
0854	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0855	1.0	0	0	0	0	1.0	0	0	0	0	0	0	2	2	0	0	1.0	0	0	0	0	1	1
0856	1.0	0	0	0	0	1.0	0	0	2	2	0	0	7	7	3	3	1.0	0	0	0	0	0	0
0857	1.0	0	0	0	0	1.0	0	0	1	1	0	0	3	3	1	1	1.0	0	0	0	0	0	0
0858	1.0	0	0	0	0	1.0	0	0	0	0	1	1	4	4	3	3	1.0	0	0	0	0	0	0
0859	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0860	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0861	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0862	1.0	0	0	0	0	1.0	1	1	0	0	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0863	1.0	1	1	2	2	1.0	0	0	1	1	0	0	3	3	2	2	1.0	0	0	0	0	1	1
0864	1.0	0	0	0	0	1.9	0	0	3	6	0	0	25	47	1	2	1.0	0	0	0	0	0	0
0865	1.0	0	0	0	0	1.0	0	0	0	0	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0866	1.0	0	0	0	0	1.0	0	0	2	2	0	0	9	9	0	0	1.0	0	0	0	0	0	0

Sample	Table Feed	UTM		Garnet						Chromite						
											KIM		MEL?		OVL	
KAP-	(kg)	Easting	Northing	G10	G9	Meg	Ecl	Crst	KIM	norm factor	R	N	R	N	R	N
0867	16.4	360509	5399660	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0868	16	356106	5395533	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0869	13.7	347645	5392438	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0870	10.3	347830	5386496	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0871	15.7	348320	5381165	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0872	12.5	338143	5429740	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0873	14.3	331749	5423339	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0874	18.5	327641	5418112	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0875	16.7	327489	5415669	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0876	19.2	327629	5415591	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0877	15.5	321319	5412713	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0878	13.2	317453	5409274	0	0	0	0	0	0	1.0	0	0	8	8	2	2
0879	16	323678	5409381	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0880	16.3	326920	5413235	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0881	17.6	335522	5411869	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0882	15	328047	5385108	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0883	15.4	320159	5379854	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0884	7.7	329056	5376733	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0885	15.5	329740	5374700	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0886	16.2	325100	5371380	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0887	17.7	330602	5372626	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0888	16.5	336845	5372996	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0889	17.2	320130	5405728	0	0	0	0	0	0	1.0	0	0	1	1	2	2
0890	15.2	326603	5410997	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0891	18.1	327289	5410128	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0892	9.8	327946	5382705	0	1	0	0	0	1	5.2	1	5	2	10	0	0
0893	11.2	328471	5379680	0	1	0	0	1	1	1.0	0	0	0	0	0	0
0894	15.3	329752	5375119	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0895	16.1	328313	5374094	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0896	13.5	323106	5368853	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0897	13.6	323230	5372976	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0898	15.1	341163	5373185	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0899	14.9	343992	5355811	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0900	13.1	348805	5360769	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0901	12.8	351720	5362261	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0902	12.7	359136	5424354	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0903	15.9	366237	5395185	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0904	15.1	367328	5388640	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0905	11.3	387822	5390266	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0906	19.3	342382	5356058	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0907	17.1	349174	5354829	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0908	18.3	355943	5424466	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0909	18.8	360342	5421262	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0910	18.3	365952	5396845	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0911	19.2	366896	5391482	0	1	1	0	0	2	1.0	0	0	0	0	0	0
0912	18.8	374135	5385743	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0913	16.6	388685	5390331	0	0	0	0	0	0	1.0	0	0	0	0	1	1
0914	10.8	378933	5382781	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0915	17.8	365296	5385297	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0916	12.6	362187	5380269	0	0	0	0	0	0	1.0	1	1	2	2	1	1
0917	11.5	361420	5365161	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0918	13.7	359426	5359044	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0919	19.9	352541	5350864	0	1	0	0	0	1	1.0	0	0	1	1	1	1
0920	14	422939	5427355	0	0	0	0	0	0	1.0	0	0	1	1	0	0
0921	13.1	422358	5427395	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0922	9.7	381695	5384202	0	1	0	0	0	1	1.0	0	0	2	2	1	1
0923	15.6	375063	5376369	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0924	11.9	363812	5382793	0	1	0	0	0	1	1.0	0	0	1	1	1	1
0925	13.3	365068	5370539	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0926	13.4	356496	5365037	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0927	17.8	357493	5354528	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0928	7.7	414845	5423512	0	0	0	0	0	0	1.0	0	0	5	5	10	10
0929	14.1	409000	5412993	0	2	0	0	0	2	5.1	0	0	10	51	5	25
0930	14.9	414524	5407973	0	1	0	0	0	1	1.0	0	0	0	0	0	0

Sample	Ilmenite					Cr-diopside											Olivine					Total KIMs	
		KIM		OTHER			KIM		GI		GII		GIII		GIV			KIM		OTHER			
KAP-	N factor	R	N	R	N	N factor	R	N	R	N	R	N	R	N	R	N	N factor	R	N	R	N	R	N
0867	1.0	0	0	0	0	1.0	0	0	4	4	0	0	27	27	2	2	1.0	1	1	1	1	1	1
0868	1.0	0	0	0	0	1.0	0	0	1	1	0	0	11	11	0	0	1.0	0	0	0	0	0	0
0869	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0870	1.0	0	0	0	0	1.0	0	0	1	1	0	0	9	9	0	0	1.0	0	0	0	0	0	0
0871	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0872	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0873	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0874	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0875	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0876	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0877	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0878	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0879	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0880	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0881	1.0	0	0	0	0	1.0	0	0	0	0	0	0	2	2	2	2	1.0	0	0	0	0	0	0
0882	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0883	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0884	1.0	0	0	1	1	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	2	2	0	0
0885	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0886	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0887	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0888	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0889	1.0	0	0	0	0	1.0	0	0	4	4	0	0	12	12	2	2	1.0	0	0	0	0	0	0
0890	1.0	0	0	0	0	1.0	1	1	4	4	0	0	6	6	2	2	1.0	0	0	0	0	1	1
0891	1.0	0	0	0	0	1.0	0	0	3	3	0	0	10	10	3	3	1.0	0	0	0	0	0	0
0892	1.0	0	0	0	0	1.0	0	0	0	0	0	0	4	4	6	6	1.0	0	0	0	0	2	6
0893	1.0	0	0	0	0	1.0	0	0	5	5	0	0	9	9	2	2	1.0	1	1	0	0	2	2
0894	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0895	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0896	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0897	1.0	0	0	0	0	1.0	0	0	3	3	0	0	9	9	4	4	1.0	0	0	0	0	0	0
0898	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	2	2	1.0	0	0	0	0	0	0
0899	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0900	1.0	0	0	0	0	1.0	0	0	2	2	0	0	16	16	0	0	1.0	0	0	0	0	0	0
0901	1.0	0	0	0	0	1.0	0	0	5	5	0	0	5	5	1	1	1.0	0	0	0	0	0	0
0902	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0903	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0904	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	1	1	1.0	0	0	0	0	0	0
0905	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0906	1.0	0	0	0	0	1.0	0	0	1	1	1	1	6	6	2	2	1.0	0	0	0	0	0	0
0907	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0908	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	3	3	1.0	0	0	0	0	0	0
0909	1.0	0	0	0	0	1.0	0	0	0	0	0	0	18	18	1	1	1.0	0	0	0	0	0	0
0910	1.0	0	0	0	0	1.0	0	0	0	0	0	0	3	3	0	0	1.0	0	0	0	0	0	0
0911	1.0	0	0	0	0	1.6	0	0	3	5	0	0	21	34	2	3	1.0	0	0	0	0	2	2
0912	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0913	1.0	0	0	0	0	1.0	0	0	11	11	0	0	9	9	1	1	1.0	0	0	0	0	0	0
0914	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0915	1.0	0	0	0	0	1.0	0	0	2	2	0	0	6	6	2	2	1.0	0	0	0	0	0	0
0916	1.0	1	1	0	0	1.0	0	0	7	7	1	1	20	20	9	9	1.0	3	3	0	0	5	5
0917	1.0	0	0	0	0	1.0	0	0	0	0	2	2	2	2	1	1	1.0	0	0	0	0	0	0
0918	1.0	0	0	0	0	1.0	0	0	0	0	0	0	2	2	0	0	1.0	0	0	0	0	0	0
0919	1.0	0	0	0	0	1.0	1	1	0	0	0	0	4	4	3	3	1.0	0	0	0	0	2	2
0920	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0921	1.0	0	0	0	0	1.0	0	0	2	2	0	0	1	1	0	0	1.0	0	0	0	0	0	0
0922	1.0	0	0	2	2	1.0	0	0	2	2	0	0	2	2	0	0	1.0	0	0	2	2	1	1
0923	1.0	0	0	0	0	1.0	0	0	0	0	0	0	4	4	1	1	1.0	0	0	0	0	0	0
0924	1.0	0	0	0	0	1.6	0	0	7	11	0	0	22	35	4	6	1.0	0	0	0	0	1	1
0925	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0926	1.0	0	0	0	0	1.0	0	0	4	4	1	1	19	19	4	4	1.0	0	0	0	0	0	0
0927	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0928	1.0	3	3	13	13	1.0	0	0	11	11	0	0	5	5	2	2	1.0	0	0	1	1	3	3
0929	1.0	6	6	8	8	1.0	0	0	18	18	2	2	11	11	5	5	1.0	0	0	0	0	8	8
0930	1.0	0	0	0	0	1.0	0	0	3	3	0	0	2	2	2	2	1.0	0	0	1	1	1	1

Sample	Table Feed	UTM		Garnet						Chromite						
											KIM		MEL?		OVL	
KAP-	(kg)	Easting	Northing	G10	G9	Meg	Ecl	Crst	KIM	norm factor	R	N	R	N	R	N
0931	13.5	417657	5405676	0	0	0	0	0	0	1.0	0	0	2	2	0	0
0932	12.8	346887	5429836	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0933	10	353094	5426389	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0934	16.9	410967	5420117	0	0	0	0	0	0	1.0	1	1	0	0	0	0
0935	16.1	417686	5405647	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0936	8.6	421948	5406074	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0937	16.2	405118	5404369	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0938	14.1	354610	5336268	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0942	12.8	416754	5427204	0	0	0	0	0	0	1.0	0	0	6	6	0	0
0943	12.8	415761	5424313	0	2	0	0	0	2	2.5	0	0	5	13	3	8
0944	18.9	409659	5418779	0	0	0	0	0	0	1.0	0	0	4	4	4	4
0945	19.7	408564	5410533	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0946	14.8	408604	5410549	0	1	0	0	0	1	2.5	1	3	5	13	2	5
0947	16.1	418486	5406140	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0948	17.8	418489	5406158	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0949	17.9	424804	5401906	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0950	19.9	424812	5401857	0	0	0	0	0	0	1.0	0	0	0	0	1	1
1026	16.5	229269	5352279	0	0	0	0	1	0	1.0	0	0	0	0	0	0
1027	15.6	229545	5352266	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1028	13.9	228028	5358411	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1029	16.2	238363	5362569	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1030	12.35	227932	5362279	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1031	8.35	244180	5383904	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1032	12.8	284132	5392479	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1033	14.4	302111	5386805	0	0	0	0	0	0	1.0	0	0	0	0	1	1
1034	5.6	292505	5387407	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1099	8.2	185165	5326290	0	0	0	0	0	0	1.0	0	0	6	6	3	3
1100	10.9	186259	5328314	0	1	0	0	0	1	4.8	3	15	24	114	6	29
1114	11.6	187419	5330088	0	4	2	1	8	7	1.9	0	0	22	41	3	6
1115	16.2	188773	5334136	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1116	14.1	193221	5341519	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1117	12	200674	5338888	0	0	0	0	0	0	1.0	0	0	3	3	1	1
1118	16.3	197226	5335876	0	0	0	0	2	0	1.0	0	0	1	1	1	1
1119	18.6	196245	5332017	0	0	0	0	0	0	1.0	0	0	2	2	1	1
1120	18.8	197008	5328906	0	0	0	0	0	0	1.7	0	0	6	10	0	0
1121	15.9	196400	5325112	0	1	0	0	6	1	1.0	0	0	0	0	1	1
1122	10.4	218667	5358189	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1123	11.2	185580	5325250	0	0	0	0	2	0	1.0	0	0	7	7	1	1
1124	17.4	184123	5328009	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1125	14.4	182559	5330811	0	0	0	0	0	0	1.0	0	0	0	0	1	1
1126	12	188319	5332530	0	0	0	0	0	0	1.0	0	0	0	0	1	1
1127	14.9	190253	5337862	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1128	12.2	196294	5334165	0	0	0	0	0	0	1.0	0	0	6	6	1	1
1129	15.8	196078	5333420	0	3	0	0	0	3	2.0	0	0	8	16	1	2
1130	15.7	197516	5335721	0	0	0	0	1	0	1.0	0	0	2	2	1	1
1131	13.7	197261	5327238	0	0	0	0	0	0	1.0	0	0	8	8	0	0
1132	15.4	217384	5354952	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1133	14.5	215711	5356558	0	0	0	0	0	0	1.0	0	0	1	1	3	3

Sample	Ilmenite					Cr-diopside											Olivine					Total KIMs	
		KIM		OTHER			KIM		GI		GII		GIII		GIV			KIM		OTHER			
KAP-	N factor	R	N	R	N	N factor	R	N	R	N	R	N	R	N	R	N	N factor	R	N	R	N	R	N
0931	1.0	1	1	0	0	1.0	0	0	9	9	1	1	10	10	3	3	1.0	0	0	0	0	1	1
0932	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0933	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0934	1.0	0	0	0	0	1.0	0	0	5	5	0	0	1	1	0	0	1.0	0	0	0	0	1	1
0935	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0936	1.0	0	0	0	0	1.0	0	0	1	1	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0937	1.0	0	0	0	0	1.0	0	0	1	1	0	0	3	3	1	1	1.0	0	0	0	0	0	0
0938	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0942	1.0	0	0	0	0	1.0	0	0	14	14	1	1	2	2	0	0	1.0	0	0	0	0	0	0
0943	1.0	0	0	1	1	1.0	0	0	11	11	0	0	3	3	5	5	1.0	0	0	0	0	2	2
0944	1.0	0	0	0	0	1.0	0	0	3	3	0	0	0	0	1	1	1.0	0	0	0	0	0	0
0945	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0946	1.0	0	0	0	0	1.0	1	1	7	7	0	0	2	2	2	2	1.0	0	0	0	0	3	5
0947	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0948	1.0	0	0	0	0	1.0	0	0	2	2	1	1	3	3	1	1	1.0	0	0	0	0	0	0
0949	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
0950	1.0	0	0	1	1	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1026	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1027	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1028	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1029	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	5	5	1.0	0	0	0	0	0	0
1030	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1031	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1032	1.0	0	0	0	0	1.8	1	2	0	0	0	0	0	0	25	44	1.0	0	0	0	0	1	2
1033	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1034	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1099	1.0	1	1	1	1	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	1	1
1100	1.0	4	4	1	1	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	8	20
1114	1.0	1	1	2	2	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	8	8
1115	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1116	1.0	1	1	0	0	1.0	0	0	0	0	0	0	2	2	0	0	1.0	0	0	0	0	1	1
1117	1.0	0	0	0	0	1.0	0	0	0	0	16	16	0	0	1	1	1.0	0	0	0	0	0	0
1118	1.0	0	0	0	0	1.0	0	0	1	1	10	10	0	0	1	1	1.0	0	0	0	0	0	0
1119	1.0	0	0	0	0	2.0	0	0	0	0	18	36	0	0	2	4	1.0	0	0	0	0	0	0
1120	1.0	0	0	0	0	3.3	0	0	0	0	29	97	1	3	0	0	1.0	0	0	0	0	0	0
1121	1.0	0	0	0	0	2.5	0	0	0	0	18	45	0	0	2	5	1.0	0	0	0	0	1	1
1122	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1123	1.0	0	0	1	1	1.0	0	0	0	0	0	0	0	0	1	1	1.0	0	0	0	0	0	0
1124	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1125	1.0	0	0	0	0	1.0	0	0	0	0	0	0	1	1	0	0	1.0	0	0	0	0	0	0
1126	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1127	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1128	1.0	0	0	1	1	4.3	0	0	0	0	30	130	0	0	0	0	1.0	0	0	0	0	0	0
1129	1.0	0	0	0	0	7.5	0	0	0	0	18	135	1	8	0	0	1.0	0	0	0	0	3	3
1130	1.0	0	0	0	0	4.6	0	0	0	0	75	342	0	0	0	0	1.0	0	0	0	0	0	0
1131	1.0	0	0	0	0	2.0	0	0	0	0	19	38	0	0	1	2	1.0	0	0	0	0	0	0
1132	1.0	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0
1133	1.0	0	0	1	1	1.0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0	0	0

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APPENDIX E: Metamorphic/Magmatic Massive Sulphide Indicator Minerals in 496 Modern Alluvium Samples from the Foleyet Area.

Summary of Abbreviations:

Ars:	Arsenopyrite
Ccp:	Chalcopyrite
ChrOVL:	Chromite from overlap compositional field
Cor:	Corundum
Fay:	Fayalite (Olivine)
Flo:	Florencite
Fluo:	Fluorite
GI:	Group I
GII:	Group II
GIII:	Group III
GIV:	Group IV
Gross:	Grossular garnet
Kg:	Kilogram
Ky:	Kyanite
Loell:	Loellingite
Mn epid:	Mn epidote
Mol:	Molybdenite
Mon:	Monazite
N:	Normalised
Oli Fo:	Forsterite (Olivine)
Opx:	Orthopyroxene
Pyr:	Pyrite
R:	Raw
Saph	Sapphirine
Sil:	Sillimanite
Spes:	Spessartine
St:	Staurolite
Tr:	Trace

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0028	6.4	220737	5354365	0	0	0	50	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0
0029	5.1	222750	5354150	0	0	0	30	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
0030	15.3	226534	5351047	1	0	0	15	0	0	8	21	0	0	0	1	1	0	0	3	3	4	4
0108	14.9	241594	5372297	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0109	12	239920	5370943	0	0	0	2	1	1	0	0	0	1	1	0	0	1	1	1	1	3	3
0110	11.6	239304	5368722	0	0	0	400	0	0	6	6	1	0	0	0	0	0	0	2	2	2	2
0111	12.6	239113	5364725	0	0	0	5	1	2	3	4	0	1	1	0	0	2	2	2	2	5	5
0112	15.7	238919	5363334	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0113	19.4	234629	5361346	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
0114	14.6	217528	5359219	4	0	0	150	0	0	1	1	1	0	0	0	0	1	1	3	3	4	4
0115	9.9	228384	5357062	50	0	0	5	1	0	0	0	0	0	0	1	1	0	0	1	1	2	3
0116	9.9	238390	5360624	2	0	0	2	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0117	12.2	247802	5367244	14	0	0	50	0	0	0	0	1	0	0	0	0	0	0	2	2	2	2
0251	9.8	334874	5324311	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0277	12.3	281596	5327369	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	3	3	7	7
0279	13.8	297248	5334391	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0280	9.9	294092	5329302	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0281	12.4	304839	5328933	0	0	0	0	0	0	0	0	0	1	1	0	0	3	3	0	0	4	4
0282	11.2	304730	5328948	1	0	0	1	0	0	0	0	0	1	1	1	1	4	4	1	1	7	7
0283	9.1	306710	5323265	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0284	11.7	306128	5335100	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2
0285	12.2	302941	5342562	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2
0286	12.1	297344	5352187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0287	13.2	287960	5348661	0	0	0	0	0	0	0	0	0	1	1	0	0	4	4	0	0	5	5
0288	12.5	283008	5339395	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0289	13.7	291007	5341866	0	0	0	0	0	0	0	0	0	3	3	1	1	6	6	0	0	10	11
0290	13.6	289250	5339786	0	0	0	2	0	0	0	0	0	2	2	0	0	3	3	1	1	6	6
0291	9.8	287571	5339350	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0292	8.7	284943	5335162	1	0	0	7	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0293	10.6	283335	5335274	0	0	0	5	0	0	0	0	0	0	0	1	1	1	1	0	0	2	2
0294	10.3	303154	5370949	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0295	12.8	294914	5381433	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0296	12.9	295818	5385724	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0297	11.6	302794	5382644	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
0298	15.3	302769	5382690	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0299	13.5	311788	5381444	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	2	2
0300	13 1	313349	5385223	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0312	11.6	352043	5324807	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0339	10.8	276773	5324779	2	0	0	5	0	0	0	0	0	1	1	0	0	0	0	3	3	4	4
0341	12	295085	5334924	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Corundum/Rutile			Silicates													Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0028	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	1	0	0	Tr.	0	0	0	0	0	0	0
0029	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
0030	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	Tr.	Tr.	0	0	0	0	0	0	0
0108	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0109	1	0	5	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0110	1	0	0	0	0	0	0	0	2	0	0	0	Tr.	Tr.	0	Tr.	0	0	2	0	0	0	0
0111	0	0	0	1	0	0	0	0	0	0	Tr.	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0
0113	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	2	0	0	0	0
0114	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0115	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	3	0	0	0	0
0116	0	0	0	0	0	0	0	0	1	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0117	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0251	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	Tr.	0	0	1	0	0	0	0
0277	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Tr.	Tr.	0	0	0	0	0	0	0
0279	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0280	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0281	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	Tr.	0	0	0	0	0	0	0
0282	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	Tr.	0	0	0	0	0	0	0
0283	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0284	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0285	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	Tr.	0	0	0	0	0	0	0
0286	0	0	0	0	0	0	0	0	0	0	0	0	1	0	Tr.	Tr.	0	0	0	0	0	0	0
0287	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0288	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0289	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0290	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0291	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	Tr.	0	0	0	0	0	0	0
0292	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0293	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0294	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0295	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	1	0	0	0	0
0296	0	0	0	0	0	0	0	0	0	0	Tr.	0	3	0	0	Tr.	0	0	0	0	0	0	0
0297	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0.5	0	Tr.	0	0	0	0	0	0	0
0298	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0299	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0300	0	0	0	0	0	0	0	0	0	0	0	0	10	Tr.	0	Tr.	0	0	0	0	0	0	0
0312	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0339	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0341	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0342	12.3	295866	5330391	6	17	0	200	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2
0343	12.2	299130	5327864	3	0	0	10	0	0	0	0	0	1	1	0	0	1	1	1	1	3	3
0344	16.2	302576	5325592	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
0345	10.2	308446	5327199	0	0	0	4	0	0	0	0	0	2	2	2	2	2	2	2	2	8	8
0346	10.5	304514	5340216	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0347	17.4	288180	5347324	0	0	0	1	0	0	0	0	0	0	0	2	2	5	5	0	0	7	7
0348	3.9	231608	5361320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0349	13.7	220032	5365251	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
0350	12.1	217778	5364797	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0351	12.7	245653	5365941	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0352	12.3	265547	5373590	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0353	10.3	274250	5373188	1	0	0	7	0	0	0	0	0	0	0	0	0	0	0	19	35	19	35
0354	16.4	273090	5373033	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
0355	9.8	274592	5375611	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0356	7	283163	5360603	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0357	9.3	294900	5375522	1	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	3	3
0358	6.1	290264	5382666	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
0359	17	297674	5384655	0	0	0	0	0	0	0	0	0	2	2	1	1	1	1	2	2	6	6
0360	9.8	309614	5382370	11	0	0	40	0	0	0	0	0	0	0	14	14	4	4	3	3	21	21
0361	16.8	311919	5384451	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0362	16	313033	5385998	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0363	14.4	314651	5391319	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
0364	13.3	314952	5395554	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
0365	17.4	316657	5396236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
0366	15.3	319686	5399211	1	0	0	10	0	0	0	0	0	4	4	0	0	3	3	0	0	7	7
0367	14.4	321445	5395406	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0368	9.7	325484	5397354	0	0	0	1	0	0	0	0	0	15	15	0	0	24	24	9	9	48	48
0369	13.5	284545	5395461	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0370	13.3	284600	5395426	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0371	12.2	256202	5398974	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0
0372	17.9	292116	5399377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0373	15.5	291830	5396486	0	0	0	30	0	0	0	0	1	0	0	0	0	1	1	0	0	1	1
0374	9.3	296587	5399821	0	0	0	5	0	0	8	13	0	0	0	0	0	0	0	1	1	1	1
0375	4.65	306158	5398700	1	0	0	25	0	0	4	8	0	1	1	0	0	2	2	2	2	5	5
0376	18	303573	5406205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0377	11.5	307045	5406805	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0378	13	309215	5402002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0379	11.3	314818	5406549	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0380	5.15	291007	5399969	1	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0381	16.5	260854	5407744	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0382	8.5	262236	5411285	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Corundum/Rutile			Silicates													Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0342	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0343	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0	0	0	0
0344	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	Tr.	0	0	0	0	0	0	0
0345	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
0346	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	Tr.	0	0	0	0	0	0	0
0347	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0348	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0
0349	0	0	0	0	0	0	0	0	0	1	0	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0350	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0351	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	1	0	0	0	0
0352	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	1	0	0	0	0	0	0	0	0
0353	1	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0354	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0355	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0356	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0357	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0358	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0359	0	0	0	0	0	0	0	0	2	0	0	0	3	Tr.	Tr.	0.5	0	0	0	0	0	0	0
0360	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0361	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0362	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0363	0	0	0	0	0	0	0	0	0	0	0	0	7	Tr.	0	Tr.	0	0	0	0	0	0	0
0364	0	0	0	0	0	0	0	0	0	0	0	0	20	Tr.	0	Tr.	0	0	0	0	0	0	0
0365	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0
0366	0	0	0	0	0	0	0	0	1	0	0	Tr.	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0367	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0	0	0	0
0368	0	0	0	0	0	0	0	0	0	0	Tr.	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0369	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0370	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0371	0	0	0	0	0	0	0	0	0	0	Tr.	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0372	0	0	0	0	0	0	0	0	0	0	0	0	10	Tr.	Tr.	1	0	0	3	0	0	0	0
0373	1	0	0	0	0	0	0	0	0	0	Tr.	0	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0374	1	0	0	0	0	0	1	0	0	0	Tr.	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0375	0	1	0	0	0	0	0	0	0	1	Tr.	0	2	Tr.	Tr.	Tr.	0	0	0	1	0	0	0
0376	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0377	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0378	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0379	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0380	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0381	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	3	0	0	0	0
0382	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	1	0	0	0	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0383	17.3	270373	5418989	4	0	0	40000	1	0	9	14	1	0	0	0	0	0	0	0	0	0	0
0384	13.1	271975	5419717	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0385	13.8	273851	5412245	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	4	4	4
0386	14.8	272831	5410151	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0387	11.1	272008	5397155	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0388	12.3	290250	5366312	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0389	16	277921	5390074	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0390	12.8	272760	5383303	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2
0391	14.9	269283	5369167	0	0	0	15	0	0	0	0	0	1	1	0	0	1	1	17	17	19	19
0392	12	296909	5377715	1	0	0	30	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0393	9.7	295600	5365322	1	0	0	50	0	0	0	0	0	2	2	0	0	2	2	0	0	4	4
0394	11.8	292485	5362241	0	0	0	0	0	0	0	0	0	1	1	2	2	3	3	0	0	6	6
0395	12.5	276844	5366140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
0396	12.6	276909	5366640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0397	14.2	274182	5366474	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0398	14.3	272713	5366056	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0399	11.8	263019	5387509	0	0	0	30	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0
0400	16.6	262846	5382386	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0401	12.1	313783	5387943	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0402	12.8	314895	5393674	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0403	10.2	311879	5396671	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0404	8.4	318408	5397914	1	0	0	10	0	0	0	0	0	0	0	0	0	4	4	2	2	6	6
0405	9	319819	5399509	0	0	0	8	0	0	0	0	0	1	1	0	0	12	12	0	0	13	13
0406	12.4	322593	5394919	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0407	12.8	326283	5395840	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0408	15	286710	5397044	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0409	14.9	286753	5405519	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
0410	15.2	291320	5404100	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	0	0	1	1
0411	12	294115	5400091	1	0	0	10	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
0412	14.1	297027	5394133	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	9	9	11	11
0413	12	297698	5402677	0	0	0	5	0	0	0	0	0	0	0	0	0	1	1	2	2	3	3
0414	12.8	302816	5403918	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
0415	15.9	302803	5403965	1	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	2	3
0416	13.5	305037	5407562	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	1	1
0417	11.2	311659	5406558	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0418	15.5	311904	5406579	0	0	0	3	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
0419	13.9	309105	5403461	1	0	0	5	0	0	0	0	0	1	1	0	0	0	0	1	1	2	2
0420	11.8	263213	5405060	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0421	12.5	261883	5409965	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0422	12.1	265387	5414186	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0423	14.4	271400	5419504	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Corundum/Rutile			Silicates													Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0383	1	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0384	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0
0385	0	0	0	0	0	0	0	0	1	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0386	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0
0387	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0
0388	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0.5	0	0	0	0	0	0	0
0389	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0390	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0391	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
0392	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0393	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
0394	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0395	0	0	0	0	0	0	0	0	0	0	0	0	15	Tr.	0	0	0	0	2	0	0	0	0
0396	0	0	0	0	0	0	0	0	0	0	Tr.	0	4	Tr.	0	0	0	0	0	0	0	0	0
0397	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0398	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	0	0	0	0	0	0	0	0
0399	0	0	0	0	0	0	0	0	0	0	0	0	8	Tr.	0	Tr.	0	0	0	0	0	0	0
0400	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	0	0	0	0	0	0	0	0
0401	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
0402	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0403	0	0	0	0	0	0	0	0	0	0	0	0	10	Tr.	0	0	0	0	0	0	0	0	0
0404	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0405	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0406	0	0	0	0	0	0	0	0	0	0	0	0	8	Tr.	0	Tr.	0	0	2	0	0	0	0
0407	0	0	0	0	0	0	0	0	0	0	0	0	10	Tr.	0	Tr.	0	0	0	0	0	0	0
0408	1	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	2	0	0	0	0
0409	0	0	0	0	0	0	0	0	1	0	0	0	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0410	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0411	0	0	0	0	0	0	0	0	0	0	Tr.	0	7	Tr.	0	Tr.	0	0	0	0	0	0	0
0412	0	0	0	0	0	0	0	0	0	0	Tr.	0	4	1	0	Tr.	0	0	0	0	0	0	0
0413	0	0	0	0	0	0	0	0	0	0	Tr.	0	7	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0414	0	0	0	0	0	0	0	0	1	0	0	0	10	Tr.	0	Tr.	0	0	0	0	0	0	0
0415	0	0	0	0	0	0	0	0	0	0	0	0	7	Tr.	0	Tr.	0	0	0	0	0	0	0
0416	0	0	0	0	0	0	0	0	0	0	Tr.	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0417	0	0	0	0	0	0	0	0	0	0	Tr.	0	3	Tr.	0	Tr.	0	0	2	0	0	0	0
0418	0	0	0	0	0	0	0	0	0	0	Tr.	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0419	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	0	0.5	0	0	0	0	0	0	0
0420	0	0	0	0	0	0	0	0	0	0	Tr.	0	20	Tr.	0	Tr.	0	0	1	0	0	0	0
0421	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0422	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	0	0	0	0	0	0	0	0
0423	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spln	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0424	9.9	270628	5414262	1	0	0	20	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0425	15.1	276045	5413692	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0426	12.9	264739	5392823	0	0	0	4	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
0427	8	271793	5393705	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0428	12.3	275697	5386863	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0429	13	268240	5375106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0430	12.4	274769	5368486	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0431	12.6	269273	5375442	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0432	10.4	277183	5376642	2	0	0	200	0	0	0	0	0	0	0	1	1	0	0	2	2	3	3
0433	16.4	274335	5384479	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19	19	19
0451	10.9	300050	5377210	0	0	0	3000	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
0452	9.8	297194	5387065	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0453	9.7	300894	5381119	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0454	8.7	305287	5380819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0455	12.3	305272	5381048	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0456	14.4	258585	5370196	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0457	11	259177	5368594	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1	3	3
0458	9.7	265562	5373113	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0459	8.8	260451	5399216	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7
0460	10.8	258269	5397849	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0461	6.1	257049	5394440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0462	13.4	252205	5388302	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0463	9.7	264284	5398710	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0464	9.5	277808	5358317	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0465	9.8	285507	5354038	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0466	7	286273	5355255	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2
0467	14.5	340854	5359719	0	0	0	0	0	0	0	0	0	4	11	0	0	10	27	1	3	15	41
0468	15.5	339961	5359381	0	0	0	0	0	0	0	0	0	3	3	0	0	5	5	0	0	8	8
0469	9.1	338247	5358728	0	0	0	1	0	0	0	0	0	0	0	0	0	2	2	1	1	3	3
0470	10	342833	5364236	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0471	12.1	336205	5356792	0	0	0	0	0	0	1	1	0	3	3	0	0	5	5	0	0	8	8
0472	12.6	322671	5360079	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0473	9.6	318867	5361699	1	0	0	3	0	0	1	1	0	2	2	1	1	0	0	1	1	4	4
0474	15.7	317669	5354598	0	0	0	0	0	0	0	0	0	2	2	1	1	2	2	2	2	7	7
0501	11	265013	5368048	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0502	13.8	280917	5369040	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	1	2	2
0503	13	290963	5334828	0	0	0	2	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2
0504	11.1	290451	5325179	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0505	8.8	298720	5320478	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0506	15.5	298376	5321328	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	0	0	3	3
0507	13.8	294742	5344971	0	0	0	15	0	0	0	0	0	0	0	1	1	2	2	0	0	3	3

Sample	Corundum/Rutile			Silicates																Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0424	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0425	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0.5	Tr.	0	0	0	0	0	0	0
0426	0	0	0	0	0	0	0	0	0	0	0	0	5	0	Tr.	Tr.	0	0	0	0	0	0	0
0427	0	0	0	0	0	0	0	0	0	0	0	0	30	Tr.	0	Tr.	0	0	0	0	0	0	0
0428	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0429	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0430	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0431	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	0	Tr.	0	0	0	0	0	0	0
0432	0	0	0	0	0	0	0	0	0	0	Tr.	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0433	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0451	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0
0452	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0453	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Tr.	0	0	0	0	0	0	0
0454	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0
0455	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Tr.	0	0	0	0	0	0	0
0456	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
0457	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0458	0	0	0	0	0	0	0	0	0	0	0	0	7	0	Tr.	Tr.	0	0	0	0	0	0	0
0459	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	0	Tr.	0	0	0	0	0	0	0
0460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0461	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0462	0	0	0	0	0	0	0	0	0	0	0	Tr.	4	Tr.	0	Tr.	0	0	0	0	0	0	0
0463	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0464	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0465	0	0	0	0	0	0	0	0	0	0	Tr.	0	5	0	Tr.	Tr.	0	0	0	0	0	0	0
0466	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0467	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0468	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0469	0	1	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0470	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0471	0	0	1	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
0472	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0473	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0474	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0501	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0502	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0503	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0504	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0505	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0506	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0507	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0508	5.2	302218	5337116	0	1	0	1	0	0	0	0	0	1	1	0	0	2	2	0	0	3	3
0509	11.5	304655	5332284	0	0	0	1	2	0	0	0	0	2	2	0	0	3	3	0	0	5	5
0510	11.9	308633	5331069	0	0	0	4	1	0	0	0	0	1	1	1	1	6	6	1	1	9	9
0511	13.3	310635	5337597	0	0	0	2	0	0	0	0	4	1	1	1	1	8	8	1	1	11	11
0512	9.5	317926	5330521	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0513	9.8	316742	5328880	0	0	0	20	3	3	9	56	3	6	6	0	0	9	9	4	4	19	19
0516	14.2	309892	5320994	0	0	0	2	0	0	1	1	0	4	4	1	1	5	5	1	1	11	11
0517	16.8	318310	5332537	0	0	0	0	0	0	0	0	1	0	0	0	0	7	7	0	0	7	7
0518	15.8	322377	5331367	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2	2	4	4
0519	16.4	321632	5325046	0	0	0	0	0	0	0	0	0	2	2	0	0	3	3	3	3	8	8
0520	10.6	328965	5341840	0	0	0	1	0	0	0	0	1	3	3	0	0	1	1	0	0	4	4
0521	17.7	329115	5335910	0	0	0	10	0	0	2	2	1	2	2	1	1	6	6	2	2	11	11
0522	13.1	334099	5331602	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0523	11.8	332549	5333028	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2
0533	21.1	335463	5345487	2	0	0	30	0	0	0	0	0	6	9	0	0	14	20	2	3	22	32
0534	11.4	332266	5335121	0	0	0	4000	0	0	0	0	0	0	0	0	0	3	3	0	0	3	3
0557	20.1	318376	5321369	0	0	0	0	0	0	0	0	0	5	5	0	0	10	10	2	2	17	17
0563	13	350686	5342231	0	0	0	0	0	0	1	1	2	7	7	0	0	17	17	0	0	24	24
0564	17.2	346071	5336019	0	0	0	0	0	0	0	0	0	3	3	0	0	4	4	2	2	9	9
0565	18.9	339505	5333365	0	0	0	0	0	0	0	0	0	1	1	0	0	5	5	0	0	6	6
0571	13.9	347226	5377480	0	0	0	5	0	0	0	0	0	2	2	1	1	6	6	0	0	9	9
0572	16.2	348947	5370891	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0573	11.1	333253	5354402	0	0	0	0	0	0	0	0	0	1	1	0	0	4	4	0	0	5	5
0579	18.5	326315	5364477	0	0	0	0	0	0	0	0	0	1	1	0	0	7	7	2	2	10	10
0580	11.3	358847	5320030	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2	0	0	4	5
0581	12.2	337424	5344523	0	0	0	2	0	0	0	0	0	2	2	1	1	2	2	3	3	8	8
0582	7.3	337252	5344531	0	0	0	10	0	0	0	0	0	1	1	0	0	2	2	0	0	3	3
0583	12.5	359988	5327802	0	0	0	0	0	0	0	0	0	2	2	0	0	1	1	2	2	5	5
0584	13.4	350106	5323846	0	0	0	0	0	0	4	16	0	7	7	1	1	3	3	3	3	14	14
0585	11.8	355157	5350004	0	0	0	50	0	0	0	0	0	7	7	1	1	5	5	4	4	17	17
0586	18.1	364884	5339074	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0587	10.1	364075	5339176	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0588	16.5	358371	5337401	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0590	15.8	372593	5325551	0	0	0	0	0	0	0	0	0	4	4	1	1	3	3	8	8	16	16
0591	19.7	371442	5346466	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0592	16.8	374971	5348934	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2
0593	17.3	371050	5351464	0	0	0	0	0	0	0	0	0	11	11	1	1	11	11	0	0	23	23
0594	15.5	367873	5347907	0	0	0	1	0	0	0	0	1	6	6	1	1	14	14	8	8	29	30
0595	9.7	365994	5337719	1	0	0	2	0	0	3	40	0	4	4	2	2	3	3	3	3	12	12
0596	18.5	371163	5332226	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	3	4
0597	18.8	367951	5341235	0	0	0	0	0	0	1	7	0	9	18	2	4	8	16	6	12	25	50

Sample	Corundum/Rutile			Silicates												Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0508	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Tr.	0	0	0	0	0	0	0
0509	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0510	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0511	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	1	0	0	0	0	0	0	0
0512	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0513	2	0	0	0	0	0	0	0	0	0	0	0	Tr.	0.5	0	Tr.	0	0	1	0	0	0	0
0516	0	0	3	0	0	0	0	1	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0517	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0518	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0519	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0520	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0521	1	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0522	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0523	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	1	0	0	0	0
0533	0	1	1	0	0	0	0	0	0	0	0	0	4	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0534	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0557	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0563	2	0	3	0	0	0	0	0	0	0	Tr.	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0564	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0565	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0571	0	1	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0572	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0
0573	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0579	1	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0580	0	0	0	0	0	0	0	0	0	0	0	0	2	0	Tr.	Tr.	0	0	0	0	0	0	0
0581	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0582	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0583	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0584	1	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	Tr.	0	0	0	0	0	0	0
0585	0	0	4	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0586	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
0587	0	0	1	0	0	0	0	0	0	0	0	0	7	0	0	Tr.	0	0	0	0	0	0	0
0588	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0590	2	0	0	0	0	0	0	5	0	0	Tr.	0	2	Tr.	Tr.	0	0	0	0	0	0	0	0
0591	0	0	0	1	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	2	0	0	0	0
0592	0	0	0	0	0	0	0	0	0	0	0	0	10	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0593	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0594	0	0	0	0	0	0	0	0	0	0	Tr.	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0595	0	0	0	0	0	0	0	1	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0596	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0597	6	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0608	9	419182	5354488	0	0	0	5	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0609	15.8	417035	5351879	0	0	0	20	0	0	0	0	0	4	4	1	1	2	2	0	0	7	7
0610	16.7	416496	5352178	0	0	0	0	0	0	0	0	0	4	4	1	1	5	5	0	0	10	10
0611	15.9	414527	5350229	0	0	0	5	0	0	0	0	0	1	1	0	0	1	1	0	0	2	2
0612	13.9	414532	5350030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0613	17.5	417096	5340918	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0614	15.4	412813	5339333	7	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0615	14.9	407145	5372469	0	0	0	0	0	1	1	1	1	2	2	0	0	0	0	0	0	2	3
0616	15.5	414993	5378466	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0617	16.7	417634	5379910	1	0	0	1	0	0	1	1	0	5	5	0	0	2	2	4	4	11	11
0618	18.7	412747	5383044	0	1	0	2	0	0	0	0	0	3	3	1	1	0	0	0	0	4	4
0619	19.9	405282	5378624	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0620	15.7	393951	5371298	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2
0621	15.4	378151	5356635	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	0	0	3	3
0622	17.1	411789	5371731	0	0	0	0	0	0	0	0	0	3	3	0	0	1	1	1	1	5	5
0623	19.6	417287	5359451	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2	4	4
0624	16.6	415060	5345502	0	0	0	0	0	0	1	1	0	3	3	0	0	3	3	1	1	7	7
0625	14.2	414181	5345385	0	0	0	1	0	0	2	5	0	9	9	2	2	7	7	0	0	18	18
0626	14.3	413571	5343198	0	0	0	2	0	0	1	1	0	10	10	2	2	6	6	3	3	21	21
0627	21.5	412194	5351339	0	0	0	0	0	0	0	0	0	13	26	2	4	5	10	4	8	24	48
0628	13.6	388172	5362297	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0629	19.2	394207	5367126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0632	14.5	342418	5321734	1	0	0	0	0	0	0	0	1	2	2	1	1	7	7	4	4	14	14
0633	10.3	349873	5327456	3	0	0	1	0	0	0	0	0	8	8	0	0	4	4	6	6	18	18
0634	13.6	347316	5327244	0	0	0	0	0	0	0	0	2	2	2	0	0	4	4	11	11	17	17
0637	15	385543	5354864	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0638	15.1	385458	5354750	0	0	0	0	0	0	0	0	0	2	2	1	1	1	1	0	0	4	4
0639	15.5	386360	5355620	0	0	0	0	0	0	0	0	0	2	2	0	0	1	1	1	1	4	5
0640	17.3	388440	5354944	1	0	0	0	0	0	0	0	2	7	7	1	1	0	0	0	0	8	8
0641	13.9	376506	5335825	0	1	0	0	0	0	0	0	4	8	8	1	1	4	4	9	9	22	22
0642	11.6	384435	5340125	0	0	0	2	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0643	13.9	389065	5341226	0	0	0	2	0	0	0	0	2	4	4	0	0	1	1	0	0	5	5
0644	17.5	392378	5344962	4	1	0	100	0	0	0	0	0	12	12	0	0	4	4	4	4	20	21
0645	17.8	393798	5340636	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0646	12.3	386017	5340270	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
0647	13.1	395850	5374746	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	7	7	9	9
0648	14.2	395617	5371592	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0649	15.5	394876	5369560	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0650	16.5	394070	5365088	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0651	17.4	393789	5362091	0	0	0	2	0	0	0	0	0	2	2	2	2	1	1	1	1	6	6
0652	19.4	393738	5362117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Corundum/Rutile			Silicates													Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0608	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0609	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0610	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0611	1	0	0	0	0	1	0	0	0	0	Tr.	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0612	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0613	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0
0614	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0615	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0616	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0617	1	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0
0618	0	0	0	0	0	0	0	0	0	0	0	0	5	0	Tr.	Tr.	0	0	0	0	0	0	0
0619	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0620	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0621	0	0	0	0	0	0	0	0	0	1	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0622	0	0	0	1	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0623	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0624	0	0	1	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
0625	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0626	0	0	0	0	0	0	0	0	0	0	Tr.	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0627	1	1	0	0	0	0	0	0	1	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0628	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
0629	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
0632	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	Tr.	Tr.	0	1	0	0	31	0	0
0633	0	0	4	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0634	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	0	0	0	0	0	0	0	0
0637	0	0	0	0	0	0	0	0	0	0	0	0	2	0	Tr.	0	0	0	0	0	0	0	0
0638	0	0	0	0	0	0	0	1	0	0	0	Tr.	5	0	0	Tr.	0	0	0	0	0	0	0
0639	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0.5	0	0	0	0	0	0	0	0	0
0640	15	0	0	0	0	0	0	1	0	0	0	0	1	Tr.	Tr.	0	0	0	0	0	0	0	0
0641	0	0	0	0	0	0	0	0	1	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0642	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Tr.	0	0	0	0	0	0	0
0643	0	0	1	0	0	0	0	0	0	0	0	0	8	Tr.	0	Tr.	0	0	0	0	0	0	0
0644	1	0	0	0	0	5	0	0	0	0	0	0	8	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0645	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0646	1	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0647	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0648	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	Tr.	0	0	0	0	0	0	0
0649	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	Tr.	0	0	0	0	0	0	0
0650	0	0	0	0	0	0	0	0	1	0	0	0	10	Tr.	0	Tr.	0	0	0	0	0	0	0
0651	0	0	0	0	0	0	0	0	0	0	0	0	15	Tr.	0	Tr.	0	0	0	0	0	0	0
0652	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0653	13.4	391294	5359869	1	0	0	3	2	1	10	23	3	17	17	0	0	4	4	5	5	26	26
0654	15	395566	5345904	0	0	0	0	0	0	1	1	2	3	3	0	0	2	2	4	4	9	10
0656	13.6	394810	5336788	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0657	18.1	397198	5342151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0658	12.5	396871	5342098	9	0	0	3000	4	0	18	32	1	7	7	1	1	3	3	5	5	16	16
0659	18.2	392821	5345130	0	0	0	15	0	0	0	0	0	17	17	2	2	5	5	5	5	29	29
0660	13.7	410551	5338009	0	0	0	0	0	0	6	11	3	3	3	1	1	4	4	0	0	8	9
0661	16.2	411013	5338062	1	0	0	10	0	0	1	1	0	0	0	0	0	1	1	0	0	1	1
0662	15.3	412948	5338756	0	0	0	60	0	0	0	0	0	2	2	0	0	0	0	1	1	3	3
0663	17	392331	5346927	5	1	0	15	0	0	0	0	0	6	6	2	2	3	3	4	4	15	15
0664	17.3	407068	5349763	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0665	12.7	402437	5343456	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0666	16.3	352455	5405341	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0667	20.1	350147	5397916	0	0	0	3	0	0	0	0	0	2	2	0	0	5	5	10	10	17	17
0668	18.8	348287	5408937	0	0	0	0	0	0	0	0	1	1	1	0	0	15	15	7	7	23	23
0669	15.9	346610	5418580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0670	17.5	346283	5418776	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0671	15	348086	5422481	0	0	0	1	0	0	0	0	0	0	0	0	0	3	3	1	1	4	4
0672	8.4	360173	5415940	0	0	0	40	0	0	1	1	0	1	1	0	0	10	10	2	2	13	13
0673	19.6	357346	5415874	1	0	0	0	0	0	0	0	0	3	3	0	0	9	9	6	6	18	18
0674	7.1	365136	5411344	2	0	0	40	0	0	1	1	0	0	0	0	0	10	10	0	0	10	10
0675	9.4	300478	5399340	0	0	0	60	0	0	0	0	0	0	0	2	2	3	3	4	4	9	9
0676	8.4	296783	5403833	1	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0677	11.9	300050	5404286	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0678	15.3	366476	5414709	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0679	11.7	298511	5416915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0680	13.2	300476	5418790	0	0	0	9000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0681	17.5	290640	5424680	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
0682	13	291575	5417750	1	0	0	10	0	0	2	4	0	0	0	1	1	0	0	0	0	1	1
0683	17	293605	5417496	0	0	0	10	0	0	0	0	1	1	1	0	0	2	2	6	6	9	9
0684	13.8	294607	5415519	1	0	0	50	0	0	0	0	1	0	0	3	3	4	4	5	5	12	12
0685	15.7	284009	5434585	1	0	0	75	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
0686	16.1	297368	5431806	0	0	0	35	0	0	1	3	1	0	0	0	0	1	1	0	0	1	1
0687	17.4	422679	5347317	0	0	0	15	2	0	2	2	0	1	1	0	0	1	1	3	3	5	5
0688	17	394063	5343131	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0689	16.9	394680	5344243	0	0	0	0	0	0	0	0	0	3	3	0	0	2	2	0	0	5	5
0702	13.8	384378	5331156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0703	13.9	381601	5329453	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2	2
0704	17.8	380647	5328930	0	0	0	0	0	0	1	1	0	3	3	0	0	3	3	7	7	13	13
0705	13.8	378433	5325739	0	0	0	0	0	0	0	0	1	4	4	1	1	3	3	2	2	10	10
0706	16.4	376254	5324419	0	0	0	50	0	0	0	0	1	8	8	0	0	2	2	11	11	21	21

Sample	Corundum/Rutile			Silicates													Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0653	6	0	5	0	0	0	0	0	1	0	Tr.	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0654	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0656	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0657	0	0	0	0	0	0	0	0	0	0	0	0	3	0	Tr.	Tr.	0	0	1	0	0	0	0
0658	0	0	0	0	0	2	0	0	0	0	0	0	4	0	Tr.	Tr.	2	0	0	0	0	0	0
0659	0	0	0	0	0	0	0	0	2	0	0	0	3	Tr.	Tr.	Tr.	0	3	1	0	0	0	0
0660	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0661	0	0	0	0	0	0	0	0	0	0	0	Tr.	4	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0662	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0663	0	0	0	0	0	0	0	0	1	0	0	0	7	Tr.	0	Tr.	0	0	0	0	0	0	0
0664	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	4	0	0	0	0
0665	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0666	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0667	0	0	0	0	0	0	0	1	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0668	1	0	1	0	0	0	0	0	0	0	0	0	6	1	Tr.	Tr.	0	0	0	0	0	0	0
0669	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
0670	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
0671	0	0	0	0	0	0	0	0	0	0	0	Tr.	10	0	0	Tr.	0	0	0	0	0	0	0
0672	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0673	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0674	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0675	1	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	0	Tr.	0	0	0	0	0	0	0
0676	0	0	0	2	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0677	0	0	1	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0
0678	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0679	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0680	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0681	0	0	0	0	0	0	0	0	0	0	0	0	8	0.5	Tr.	Tr.	0	0	1	0	0	0	0
0682	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0683	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	1	0	0	1	0	0	0	0
0684	0	0	1	0	0	0	0	0	1	0	Tr.	Tr.	3	0	Tr.	0.5	0	0	0	0	0	0	0
0685	1	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0686	0	0	0	0	0	0	0	0	1	0	0	0	0.5	0.5	Tr.	0.5	0	0	0	0	0	0	0
0687	0	0	1	0	0	0	0	0	0	0	0	0	10	Tr.	Tr.	Tr.	0	0	2	0	0	0	0
0688	0	0	0	0	0	0	0	0	0	0	0	0	0.5	Tr.	0	1	0	0	1	0	0	0	0
0689	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	0	0.5	0	0	0	0	0	0	0
0702	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0
0703	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	Tr.	0	0	0	0	0	0	0
0704	0	0	0	0	0	0	0	2	0	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0705	1	0	0	0	0	0	0	1	0	0	0	0	4	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0706	0	0	0	0	0	0	0	6	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0707	15.2	375175	5323432	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2
0708	11.5	373019	5321361	0	0	0	0	0	0	2	7	0	5	5	0	0	4	4	9	9	18	18
0709	11.3	371162	5319869	0	0	0	0	0	0	0	0	1	6	6	0	0	1	1	2	2	9	9
0710	12.7	370583	5319527	0	0	0	0	0	0	0	0	0	2	2	1	1	0	0	5	5	8	9
0713	16.9	385734	5327733	0	0	0	0	0	1	7	14	3	5	5	1	1	2	2	2	2	10	10
0714	18	387003	5323961	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1	3	3
0720	13.4	390320	5354808	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0721	11.3	390550	5356058	4	0	0	25	0	0	0	0	2	7	7	0	0	0	0	1	1	8	8
0722	18.1	390802	5353759	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0723	16.3	391004	5352923	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0724	21.4	392772	5351650	1	0	0	6	0	0	0	0	0	3	3	0	0	1	1	2	2	6	7
0725	16.8	396503	5325523	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	1	3	3
0726	11.4	393753	5322819	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	3	3
0727	16.8	371073	5402062	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0728	16.5	376393	5396971	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0729	11.4	380667	5397172	0	0	0	1	0	0	0	0	0	8	8	2	2	2	2	4	4	16	16
0730	14.3	381994	5397227	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0731	16.6	384956	5397513	0	0	0	0	0	0	0	0	0	4	4	0	0	4	4	0	0	8	8
0732	11.6	384926	5406404	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0733	15.2	384757	5406438	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0734	14.2	393222	5409544	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	5	5
0735	16.7	393942	5412019	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	3	3
0736	14.2	388166	5410554	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0737	16.7	388342	5418558	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0738	12	401047	5426403	1	0	0	20	0	0	0	0	0	10	10	2	2	3	3	2	2	17	17
0739	12.6	365095	5411388	3	0	0	50	0	0	0	0	2	6	6	0	0	34	34	4	4	44	44
0740	17.7	366757	5415493	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0741	17.7	366091	5418525	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0742	16	365304	5421009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0743	13.8	364845	5425534	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0744	14.4	365759	5426137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745	16.5	365750	5427385	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0746	11.7	310729	5425569	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
0747	14.6	317256	5422619	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0748	14.7	319656	5422669	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0749	13.4	321658	5419004	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
0750	13.9	320560	5423569	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0751	11.5	288445	5412161	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	0	0	4	4
0752	11.4	286307	5417314	10	0	0	100	0	0	0	0	0	0	0	3	3	1	1	1	1	5	5
0753	10.6	391352	5414627	0	0	0	15	0	0	1	1	0	1	1	0	0	2	2	0	0	3	3
0754	14.3	391701	5417027	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Corundum/Rutile			Silicates														Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0707	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0708	9	1	0	0	0	0	0	1	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0709	3	0	0	0	0	0	0	7	0	0	0	0	4	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0710	0	0	0	0	0	1	0	3	0	0	0	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0713	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0714	0	0	0	0	0	0	0	0	0	0	0	0	7	Tr.	0	Tr.	0	0	1	0	0	0	0
0720	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0721	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0722	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0723	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0724	0	0	0	0	0	0	0	0	0	0	0	10	4	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0725	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0726	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0	0
0727	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0728	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0729	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	0	Tr.	0	0	1	0	0	0	0
0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0731	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0732	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
0733	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
0734	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0735	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0736	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
0737	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Tr.	0	0	0	0	0	0	0
0738	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0739	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0740	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0741	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0	0
0742	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	2	0	0	0	0
0743	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0744	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
0745	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
0746	0	0	0	0	0	0	0	0	0	0	0	0	15	Tr.	0	Tr.	0	0	0	0	0	0	0
0747	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0748	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0749	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Tr.	0	0	0	0	0	0	0
0750	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	2	0	0	0	0	0	0	0
0751	1	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0752	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0753	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0754	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0755	11.5	395253	5417819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0756	12	400531	5419187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0757	13.6	400464	5422145	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0758	11.6	393403	5412057	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0759	14	396988	5424469	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0760	18.5	409543	5387875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0761	14.2	412103	5391519	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0762	16.3	412987	5394013	0	0	0	3	0	0	2	2	0	1	1	0	0	13	13	0	0	14	14
0763	16	412460	5392354	2	0	0	50	0	0	0	0	1	3	3	0	0	6	6	1	1	10	10
0764	15.2	413038	5388567	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0765	13.5	393638	5391480	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0766	16.6	394167	5384055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0767	16.8	395003	5378096	0	0	0	5	0	0	0	0	0	3	3	0	0	3	3	0	0	6	6
0768	16	396668	5382210	1	0	0	3	0	0	0	0	0	1	1	0	0	1	1	0	0	2	2
0769	15	396303	5382071	0	0	0	0	0	0	0	0	0	4	4	1	1	3	3	1	1	9	9
0770	15	408750	5380234	0	0	0	5	0	0	0	0	0	5	5	1	1	0	0	0	0	6	7
0771	11.8	421702	5369719	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0772	15.9	421003	5373219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0773	19.4	419838	5375269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0774	17.3	419998	5376659	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2	2
0775	15.6	426510	5381064	0	0	0	2	0	0	1	1	1	4	4	1	1	2	2	1	1	8	8
0776	12.2	403336	5371518	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0777	12.4	421381	5359135	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	1	1
0778	13.6	423040	5361504	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0779	13.7	422565	5366893	0	0	0	4	0	0	6	11	1	6	6	0	0	1	1	0	0	7	7
0780	11.9	421759	5351996	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0781	16.1	418718	5347801	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0782	18.7	389721	5338451	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0783	14.3	374404	5341878	4	0	0	8	0	0	0	0	0	14	19	1	1	4	5	4	5	23	30
0784	14.4	373154	5342574	7	0	0	15	1	0	1	1	0	11	11	2	2	4	4	8	8	25	25
0785	16.4	369914	5340628	0	0	0	2	0	0	0	0	1	7	13	1	2	5	9	10	19	23	43
0786	10.9	370198	5341997	1	0	0	15	2	0	1	3	1	5	5	1	1	6	6	4	4	16	16
0787	12.9	388970	5349943	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0788	12	388897	5350038	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0789	14.7	390051	5333180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0791	11	409134	5384628	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0792	13.6	408635	5384673	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	1	1	4	4
0793	13.8	406408	5383761	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0794	14.4	403401	5385353	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	1	1	4	5
0795	17.2	400885	5386144	1	0	0	0	0	0	1	5	0	17	17	0	0	4	4	3	3	24	25
0796	13.2	399970	5384684	0	0	0	4	0	0	3	3	1	5	5	0	0	3	3	2	2	10	11

Sample	Corundum/Rutile			Silicates													Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0755	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0756	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Tr.	0	0	0	0	0	0	0
0757	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0758	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
0759	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0760	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	0	Tr.	0	0	0	0	0	0	0
0761	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	0	0	0	0	0	0	0	0
0762	0	0	3	0	0	0	0	0	0	0	0	0	10	Tr.	0	Tr.	1	0	0	0	0	0	0
0763	0	0	0	0	0	0	0	1	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
0764	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
0765	0	0	0	0	0	0	0	0	0	0	0	0	10	Tr.	0	Tr.	0	0	0	0	0	0	0
0766	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0767	1	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0768	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	1	0	0	0	0
0769	1	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	0	0	1	0	0	0	0
0770	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0771	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	Tr.	0	0	0	0	0	0	0
0772	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0
0773	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	2	0	0	0	0
0774	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0775	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0776	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0777	0	0	0	0	0	0	0	0	0	0	0	0	7	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0778	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	Tr.	0	0	0	0	0	0	0
0779	1	0	3	0	0	0	0	0	0	0	Tr.	0	3	Tr.	Tr.	Tr.	0	0	0	0	0	0	1
0780	0	0	0	0	0	0	0	0	0	0	Tr.	0	10	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0781	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0782	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
0783	5	0	0	0	0	0	0	7	1	0	0	0	10	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0784	2	0	3	0	0	0	0	2	0	0	0	Tr.	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0785	2	0	0	0	0	0	0	1	0	0	0	0	8	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0786	3	0	3	0	0	0	0	1	0	0	Tr.	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0787	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0788	0	0	0	0	0	0	0	0	0	0	0	0	10	Tr.	0	Tr.	0	0	0	0	0	0	0
0789	0	0	0	0	0	0	0	0	0	0	0	0	15	Tr.	0	Tr.	0	0	0	0	0	0	0
0791	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0
0792	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0793	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	0	0	0	0	0	0	0	0
0794	0	0	0	0	0	0	0	0	1	0	0	0	15	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0795	0	0	4	0	0	0	0	0	0	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0796	1	0	1	0	0	0	0	0	0	0	0	Tr.	2	Tr.	Tr.	Tr.	0	0	0	0	1	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0851	12.9	365092	5405994	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0852	10.6	364574	5402504	2	1	0	20	0	0	0	0	1	1	1	0	0	8	8	0	0	9	9
0853	11.1	360641	5398144	3	0	0	25	0	0	0	0	0	2	2	0	0	30	30	3	3	35	35
0854	15.9	355286	5395159	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0855	17.6	351296	5392583	0	0	0	2	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2
0856	12.5	348460	5389463	0	0	0	0	0	0	0	0	0	2	2	0	0	7	7	3	3	12	12
0857	9.3	344159	5382681	0	0	0	1	0	0	0	0	0	1	1	0	0	3	3	1	1	5	5
0858	10	333177	5428586	0	0	0	20	0	0	1	1	0	0	0	1	1	4	4	3	3	8	8
0859	16.2	330186	5421050	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0860	17	330210	5421049	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0861	12.6	323931	5415267	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0862	16.1	318417	5408826	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0863	8.5	319392	5402424	1	0	0	7	0	0	3	5	1	1	1	0	0	3	3	2	2	6	6
0864	8.6	363348	5404897	4	0	0	35	0	0	0	0	0	3	6	0	0	25	47	1	2	29	55
0865	14.6	367935	5408631	0	0	0	2	0	0	0	0	1	0	0	0	0	2	2	0	0	2	2
0866	10.8	365007	5397864	2	0	0	20	0	0	0	0	0	2	2	0	0	9	9	0	0	11	11
0867	16.4	360509	5399660	3	0	0	1	0	0	0	0	0	4	4	0	0	27	27	2	2	33	33
0868	16	356106	5395533	1	0	0	3	0	0	0	0	0	1	1	0	0	11	11	0	0	12	12
0869	13.7	347645	5392438	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0870	10.3	347830	5386496	1	0	0	1000	0	0	0	0	0	1	1	0	0	9	9	0	0	10	10
0871	15.7	348320	5381165	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0872	12.5	338143	5429740	0	0	0	10	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0873	14.3	331749	5423339	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0874	18.5	327641	5418112	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2	2
0875	16.7	327489	5415669	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0876	19.2	327629	5415591	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0877	15.5	321319	5412713	0	0	0	7	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0878	13.2	317453	5409274	0	0	1	15	0	0	2	2	0	0	0	0	0	1	1	0	0	1	1
0879	16	323678	5409381	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0880	16.3	326920	5413235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0881	17.6	335522	5411869	0	0	0	1	0	0	0	0	0	0	0	0	0	2	2	2	2	4	4
0882	15	328047	5385108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0883	15.4	320159	5379854	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0884	7.7	329056	5376733	1	0	0	10	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
0885	15.5	329740	5374700	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0886	16.2	325100	5371380	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0887	17.7	330602	5372626	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0888	16.5	336845	5372996	1	0	0	6	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0889	17.2	320130	5405728	0	0	0	3	0	0	2	2	4	4	4	0	0	12	12	2	2	18	18
0890	15.2	326603	5410997	1	0	0	4	0	0	0	0	0	4	4	0	0	6	6	2	2	12	13
0891	18.1	327289	5410128	0	0	0	1	0	0	0	0	0	3	3	0	0	10	10	3	3	16	16

Sample	Corundum/Rutile			Silicates																Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0851	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0852	0	0	1	0	0	1	0	0	0	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0853	0	0	0	0	0	0	0	0	0	0	0	Tr.	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0854	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	0	0	0	0	0	0	0
0855	0	0	0	0	0	0	0	0	0	0	0	Tr.	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0856	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0857	0	0	0	0	0	0	0	0	0	0	0	Tr.	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0858	0	0	0	0	0	0	0	0	0	0	0	Tr.	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0859	0	0	0	0	0	0	0	0	0	0	0	0	10	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0860	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	1	0	0	0	0
0861	0	0	0	0	0	0	0	0	0	0	Tr.	0	10	0	Tr.	0	0	0	0	0	0	0	0
0862	0	0	0	0	0	0	0	0	0	0	0	0	3	0.5	0	0	0	0	0	0	0	0	0
0863	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0864	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0865	0	0	0	0	0	0	0	0	0	0	0	0	5	0	Tr.	0	0	0	0	0	0	0	0
0866	0	1	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0867	0	0	0	0	0	1	0	0	1	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0868	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0869	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0870	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	Tr.	0	0	0	0	0	0	0	0
0871	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0872	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0873	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0874	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
0875	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	1	0	0	0	0
0876	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
0877	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0878	0	0	0	0	0	0	0	0	0	0	Tr.	0	4	Tr.	0	Tr.	0	0	0	0	0	0	0
0879	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	1	0	0	0	0
0880	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0881	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0882	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	1	0	0	0	0
0883	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0884	0	0	0	0	0	2	0	0	0	0	Tr.	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0885	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	3	0	0	0	0
0886	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	2	0	0	0	0
0887	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
0888	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0889	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0890	0	0	0	0	0	0	0	0	0	0	0	0	7	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0891	0	0	0	0	0	0	0	0	0	0	0	Tr.	3	Tr.	0	Tr.	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0892	9.8	327946	5382705	0	0	0	15	0	0	0	0	1	0	0	0	0	4	4	6	6	10	10
0893	11.2	328471	5379680	1	0	0	20	0	0	0	0	0	5	5	0	0	9	9	2	2	16	16
0894	15.3	329752	5375119	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0895	16.1	328313	5374094	1	0	0	20	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0896	13.5	323106	5368853	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0897	13.6	323230	5372976	3	0	0	25	0	0	0	0	1	3	3	0	0	9	9	4	4	16	16
0898	15.1	341163	5373185	0	0	0	200	0	0	0	0	0	0	0	0	0	1	1	2	2	3	3
0899	14.9	343992	5355811	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900	13.1	348805	5360769	3	0	0	10	0	0	0	0	0	2	2	0	0	16	16	0	0	18	18
0901	12.8	351720	5362261	4	0	0	5	0	0	0	0	0	5	5	0	0	5	5	1	1	11	11
0902	12.7	359136	5424354	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0903	15.9	366237	5395185	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0904	15.1	367328	5388640	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2
0905	11.3	387822	5390266	0	0	0	20	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0906	19.3	342382	5356058	0	0	0	0	0	0	0	0	0	1	1	1	1	6	6	2	2	10	10
0907	17.1	349174	5354829	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
0908	18.3	355943	5424466	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3
0909	18.8	360342	5421262	0	0	0	20	0	0	0	0	0	0	0	0	0	18	18	1	1	19	19
0910	18.3	365952	5396845	0	0	0	5	0	0	0	0	0	0	0	0	0	3	3	0	0	3	3
0911	19.2	366896	5391482	2	0	0	2	0	0	0	0	0	3	5	0	0	21	34	2	3	26	42
0912	18.8	374135	5385743	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0913	16.6	388685	5390331	0	0	0	2	0	0	1	1	0	11	11	0	0	9	9	1	1	21	21
0914	10.8	378933	5382781	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915	17.8	365296	5385297	0	0	0	0	0	0	0	0	0	2	2	0	0	6	6	2	2	10	10
0916	12.6	362187	5380269	4	0	0	75	0	0	1	1	1	7	7	1	1	20	20	9	9	37	37
0917	11.5	361420	5365161	1	0	0	3	0	0	0	0	0	0	0	2	2	2	2	1	1	5	5
0918	13.7	359426	5359044	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2
0919	19.9	352541	5350864	0	0	0	0	0	0	1	1	1	0	0	0	0	4	4	3	3	7	8
0920	14	422939	5427355	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0921	13.1	422358	5427395	0	0	0	0	0	0	0	0	0	2	2	0	0	1	1	0	0	3	3
0922	9.7	381695	5384202	0	0	0	20	0	0	1	1	0	2	2	0	0	2	2	0	0	4	4
0923	15.6	375063	5376369	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	1	1	5	5
0924	11.9	363812	5382793	7	2	0	25	0	2	1	1	2	7	11	0	0	22	35	4	6	33	52
0925	13.3	365068	5370539	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0926	13.4	356496	5365037	1	0	0	3	0	0	0	0	2	4	4	1	1	19	19	4	4	28	28
0927	17.8	357493	5354528	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0928	7.7	414845	5423512	5	0	1	150	0	0	10	10	2	11	11	0	0	5	5	2	2	18	18
0929	14.1	409000	5412993	2	0	0	5	1	0	5	25	1	18	18	2	2	11	11	5	5	36	36
0930	14.9	414524	5407973	0	0	0	0	0	0	0	0	2	3	3	0	0	2	2	2	2	7	7
0931	13.5	417657	5405676	0	0	0	0	0	0	0	0	1	9	9	1	1	10	10	3	3	23	23
0932	12.8	346887	5429836	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Corundum/Rutile			Silicates													Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0892	0	0	1	0	0	0	0	0	0	0	0	Tr.	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0893	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	0	Tr.	Tr.	0	0	0	1	0	0	0
0894	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0895	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0896	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0897	0	1	0	0	0	0	0	0	1	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0898	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0899	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	Tr.	0	0	0	0	0	0	0
0900	1	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0901	0	0	0	0	0	0	0	0	1	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	5	15	0
0902	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0
0903	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0
0904	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0
0905	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0906	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0907	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0908	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0909	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	0	Tr.	0	0	0	0	0	0	0
0910	0	0	0	0	0	0	0	0	1	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0911	1	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	2	Tr.	0	0	0	0	0	0	0
0912	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
0913	1	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0914	0	0	0	0	0	0	0	0	0	0	0	0	35	Tr.	0	Tr.	0	0	0	0	0	0	0
0915	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	0	Tr.	0	0	0	0	0	0	0
0916	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
0917	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	Tr.	0.5	0	0	0	0	0	0	0
0918	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	Tr.	0	0	0	0	0	0	0
0919	2	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	4	0	0	0	0	0
0920	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0921	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0922	0	0	15	0	0	2	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0923	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	1	0	0	0	0
0924	1	1	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	Tr.	0	0	1	0	0	0	0
0925	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0926	1	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	2	0	1	0	0
0927	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	0	Tr.	0	0	0	0	0	0	0
0928	0	0	1	0	0	1	0	2	0	0	Tr.	0	3	Tr.	Tr.	Tr.	0	1	0	0	0	0	0
0929	2	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	1	Tr.	0	0	0	0	0	0	0
0930	0	0	0	0	0	1	0	0	0	0	0	0	8	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0931	0	0	0	0	0	0	0	0	0	0	Tr.	0	10	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0932	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
0933	10	353094	5426389	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0934	16.9	410967	5420117	4	0	0	25	0	2	0	0	1	5	5	0	0	1	1	0	0	6	6
0935	16.1	417686	5405647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0936	8.6	421948	5406074	2	0	0	10	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
0937	16.2	405118	5404369	0	0	0	0	0	0	0	0	0	1	1	0	0	3	3	1	1	5	5
0938	14.1	354610	5336268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0942	12.8	416754	5427204	4	1	0	50	3	0	0	0	0	14	14	1	1	2	2	0	0	17	17
0943	12.8	415761	5424313	2	0	0	60	3	1	3	8	0	11	11	0	0	3	3	5	5	19	19
0944	18.9	409659	5418779	6	0	0	2000	0	0	4	4	0	3	3	0	0	0	0	1	1	4	4
0945	19.7	408564	5410533	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0946	14.8	408604	5410549	0	0	0	0	0	0	2	5	1	7	7	0	0	2	2	2	2	11	12
0947	16.1	418486	5406140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0948	17.8	418489	5406158	0	0	0	20	0	0	0	0	0	2	2	1	1	3	3	1	1	7	7
0949	17.9	424804	5401906	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0950	19.9	424812	5401857	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
1026	16.5	229269	5352279	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1027	15.6	229545	5352266	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1028	13.9	228028	5358411	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1029	16.2	238363	5362569	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5	5
1030	12.35	227932	5362279	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1031	8.35	244180	5383904	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1032	12.8	284132	5392479	5	0	0	15	0	0	0	0	0	0	0	0	0	0	0	25	44	25	46
1033	14.4	302111	5386805	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
1034	5.6	292505	5387407	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1099	8.2	185165	5326290	0	0	0	30	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0
1100	10.9	186259	5328314	1	0	0	50	1	0	6	29	0	0	0	0	0	0	0	1	1	1	1
1114	11.6	187419	5330088	2	0	0	50	0	0	3	6	1	0	0	0	0	0	0	0	0	0	0
1115	16.2	188773	5334136	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1116	14.1	193221	5341519	0	0	0	5	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2
1117	12	200674	5338888	1	0	0	0	0	0	1	1	0	0	0	16	16	0	0	1	1	17	17
1118	16.3	197226	5335876	1	0	0	5	0	1	1	1	1	1	1	10	10	0	0	1	1	12	12
1119	18.6	196245	5332017	0	0	0	3	0	0	1	1	0	0	0	18	36	0	0	2	4	20	40
1120	18.8	197008	5328906	0	0	0	15	0	0	0	0	0	0	0	29	97	1	3	0	0	30	100
1121	15.9	196400	5325112	0	0	0	0	0	0	1	1	1	0	0	18	45	0	0	2	5	20	50
1122	10.4	218667	5358189	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1123	11.2	185580	5325250	1	0	0	10	0	0	1	1	0	0	0	0	0	0	0	1	1	1	1
1124	17.4	184123	5328009	34	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1125	14.4	182559	5330811	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	1	1
1126	12	188319	5332530	1	0	0	2	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0
1127	14.9	190253	5337862	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1128	12.2	196294	5334165	0	0	0	6	0	0	1	1	0	0	0	30	130	0	0	0	0	30	130

Sample	Corundum/Rutile			Silicates													Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
0933	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	0	Tr.	0	0	0	0	0	0	0
0934	0	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0935	0	0	0	0	0	0	0	0	0	0	0	0	4	Tr.	0	Tr.	0	0	0	0	0	0	0
0936	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0937	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0938	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
0942	0	0	0	0	0	0	0	3	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
0943	1	0	2	0	0	0	0	0	0	0	0	0	7	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0944	0	0	0	0	0	0	0	0	0	0	Tr.	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0946	0	0	3	0	0	0	0	0	0	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
0947	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	Tr.	0	0	0	0	0	0	0
0948	0	0	0	0	0	0	0	0	0	0	0	0	5	Tr.	0	2	0	0	3	0	0	0	0
0949	0	0	0	0	0	0	0	0	0	0	0	0	35	Tr.	0	Tr.	0	0	5	0	0	0	0
0950	0	0	0	0	0	0	0	0	0	0	0	0	8	Tr.	0	Tr.	0	0	0	0	0	0	0
1026	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1027	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	Tr.	0	0	0	0	0	0	0
1028	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0	0
1029	0	0	0	0	0	0	0	0	1	0	0	0	1	Tr.	0	0	0	0	0	0	0	0	0
1030	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	1	0	0	0	0
1031	0	0	0	0	0	0	0	0	0	0	0	0	2	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
1032	0	0	0	0	0	0	0	0	0	0	0	0	1	Tr.	0	Tr.	0	0	0	0	0	0	0
1033	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
1034	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0
1099	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	Tr.	0	0	0	0	0	0	0
1100	1	0	3	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
1114	0	0	0	0	4	0	0	0	0	0	Tr.	0	Tr.	0	Tr.	Tr.	0	0	0	0	0	0	0
1115	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
1116	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	1	0	0	0	0
1117	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
1118	0	0	0	0	2	0	0	0	0	0	0	0	1	Tr.	0	0.5	0	0	0	0	0	0	0
1119	0	0	1	0	0	0	0	0	1	0	0	0	4	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
1120	0	0	0	0	0	0	0	0	1	0	0	0	1	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
1121	0	0	0	0	3	0	0	0	0	0	0	0	Tr.	Tr.	0	Tr.	0	0	0	0	0	0	0
1122	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	0	0	0	0	0	0	0	0	0
1123	0	0	0	0	0	0	0	0	0	0	0	0	3	0	Tr.	Tr.	0	0	0	0	0	0	0
1124	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
1125	0	0	0	0	0	0	0	0	0	0	Tr.	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
1126	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0
1127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0
1128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0

Sample	Table	UTM		Sulphides				Spinel					Cr-Diopside									
KAP-	Feed (kg)	Easting	Northing	Ccp	Mol	Ars	Pyr	Gahnite MgO > 2%	Gahnite MgO < 2%	ChrOVL R	ChrOVL N	Spin	GI R	GI N	GII R	GII N	GIII R	GIII N	GIV R	GIV N	Pyx Total R	Pyx Total N
1129	15.8	196078	5333420	0	0	0	0	0	0	1	2	0	0	0	18	135	1	8	0	0	19	143
1130	15.7	197516	5335721	0	0	0	2	0	0	1	1	0	0	0	75	342	0	0	0	0	75	342
1131	13.7	197261	5327238	0	0	0	0	0	0	0	0	0	0	0	19	38	0	0	1	2	20	40
1132	15.4	217384	5354952	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1133	14.5	215711	5356558	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0

Sample	Corundum/Rutile			Silicates													Other			Carbonatite			
KAP-	Ruby Cor	Saph Cor	Red Rutile	Cr-gross	gross	Oli Fo	Leuco Saph	Saph	Mn epid	Topaz	% Spes	% Fay	% Opx	% Ky	% Sil	% St	Loell	Fluo	Gold	Per	REE carb	Mon	Flo
1129	1	0	0	0	0	0	0	0	0	0	0	0	3	Tr.	2	Tr.	0	0	1	0	0	0	0
1130	0	0	1	0	0	0	0	0	0	0	0	0	0.5	0	Tr.	0.5	0	0	0	0	0	0	0
1131	0	0	1	0	0	0	0	0	0	0	0	0	Tr.	Tr.	Tr.	Tr.	0	0	0	0	0	0	0
1132	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0
1133	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr.	0	0	0	0	0	0	0	0	0

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APPENDIX G : Number of Total, Reshaped, Modified and Pristine Gold Grains.

Sample KAP-	UTM		Gold			
	Easting	Northing	Total	Reshaped	Modified	Pristine
0028	220737	5354365	0	0	0	0
0029	222750	5354150	0	0	0	0
0030	226534	5351047	0	0	0	0
0108	241594	5372297	0	0	0	0
0109	239920	5370943	0	0	0	0
0110	239304	5368722	2	2	0	0
0111	239113	5364725	0	0	0	0
0112	238919	5363334	0	0	0	0
0113	234629	5361346	2	2	0	0
0114	217528	5359219	0	0	0	0
0115	228384	5357062	3	3	0	0
0116	238390	5360624	0	0	0	0
0117	247802	5367244	0	0	0	0
0251	334874	5324311	1	1	0	0
0277	281596	5327369	0	0	0	0
0279	297248	5334391	0	0	0	0
0280	294092	5329302	0	0	0	0
0281	304839	5328933	0	0	0	0
0282	304730	5328948	0	0	0	0
0283	306710	5323265	0	0	0	0
0284	306128	5335100	0	0	0	0
0285	302941	5342562	0	0	0	0
0286	297344	5352187	0	0	0	0
0287	287960	5348661	0	0	0	0
0288	283008	5339395	0	0	0	0
0289	291007	5341866	0	0	0	0
0290	289250	5339786	0	0	0	0
0291	287571	5339350	0	0	0	0
0292	284943	5335162	0	0	0	0
0293	283335	5335274	0	0	0	0
0294	303154	5370949	0	0	0	0
0295	294914	5381433	1	1	0	0
0296	295818	5385724	0	0	0	0
0297	302794	5382644	0	0	0	0
0298	302769	5382690	0	0	0	0
0299	311788	5381444	0	0	0	0
0300	313349	5385223	0	0	0	0
0312	352043	5324807	0	0	0	0
0339	276773	5324779	0	0	0	0
0341	295085	5334924	0	0	0	0
0342	295866	5330391	0	0	0	0
0343	299130	5327864	0	0	0	0
0344	302576	5325592	0	0	0	0
0345	308446	5327199	0	0	0	0
0346	304514	5340216	0	0	0	0
0347	288180	5347324	0	0	0	0
0348	231608	5361320	0	0	0	0
0349	220032	5365251	0	0	0	0
0350	217778	5364797	0	0	0	0
0351	245653	5365941	1	1	0	0

Sample	UTM		Gold			
KAP-	Easting	Northing	Total	Reshaped	Modified	Pristine
0352	265547	5373590	0	0	0	0
0353	274250	5373188	0	0	0	0
0354	273090	5373033	0	0	0	0
0355	274592	5375611	0	0	0	0
0356	283163	5360603	0	0	0	0
0357	294900	5375522	0	0	0	0
0358	290264	5382666	0	0	0	0
0359	297674	5384655	0	0	0	0
0360	309614	5382370	0	0	0	0
0361	311919	5384451	0	0	0	0
0362	313033	5385998	0	0	0	0
0363	314651	5391319	0	0	0	0
0364	314952	5395554	0	0	0	0
0365	316657	5396236	0	0	0	0
0366	319686	5399211	0	0	0	0
0367	321445	5395406	0	0	0	0
0368	325484	5397354	0	0	0	0
0369	284545	5395461	0	0	0	0
0370	284600	5395426	0	0	0	0
0371	256202	5398974	0	0	0	0
0372	292116	5399377	3	3	0	0
0373	291830	5396486	0	0	0	0
0374	296587	5399821	0	0	0	0
0375	306158	5398700	0	0	0	0
0376	303573	5406205	0	0	0	0
0377	307045	5406805	0	0	0	0
0378	309215	5402002	0	0	0	0
0379	314818	5406549	0	0	0	0
0380	291007	5399969	0	0	0	0
0381	260854	5407744	3	3	0	0
0382	262236	5411285	0	0	0	0
0383	270373	5418989	0	0	0	0
0384	271975	5419717	0	0	0	0
0385	273851	5412245	0	0	0	0
0386	272831	5410151	0	0	0	0
0387	272008	5397155	0	0	0	0
0388	290250	5366312	0	0	0	0
0389	277921	5390074	0	0	0	0
0390	272760	5383303	0	0	0	0
0391	269283	5369167	0	0	0	0
0392	296909	5377715	0	0	0	0
0393	295600	5365322	0	0	0	0
0394	292485	5362241	0	0	0	0
0395	276844	5366140	2	2	0	0
0396	276909	5366640	0	0	0	0
0397	274182	5366474	0	0	0	0
0398	272713	5366056	0	0	0	0
0399	263019	5387509	0	0	0	0
0400	262846	5382386	0	0	0	0
0401	313783	5387943	0	0	0	0

Sample KAP-	UTM		Gold			
	Easting	Northing	Total	Reshaped	Modified	Pristine
0402	314895	5393674	0	0	0	0
0403	311879	5396671	0	0	0	0
0404	318408	5397914	0	0	0	0
0405	319819	5399509	0	0	0	0
0406	322593	5394919	2	2	0	0
0407	326283	5395840	0	0	0	0
0408	286710	5397044	2	2	0	0
0409	286753	5405519	0	0	0	0
0410	291320	5404100	0	0	0	0
0411	294115	5400091	0	0	0	0
0412	297027	5394133	0	0	0	0
0413	297698	5402677	0	0	0	0
0414	302816	5403918	0	0	0	0
0415	302803	5403965	0	0	0	0
0416	305037	5407562	0	0	0	0
0417	311859	5406558	2	2	0	0
0418	311904	5406579	0	0	0	0
0419	309105	5403461	0	0	0	0
0420	263213	5405060	1	1	0	0
0421	261883	5409965	0	0	0	0
0422	265387	5414186	0	0	0	0
0423	271400	5419504	0	0	0	0
0424	270628	5414262	0	0	0	0
0425	276045	5413692	0	0	0	0
0426	264739	5392823	0	0	0	0
0427	271793	5393705	0	0	0	0
0428	275697	5386863	0	0	0	0
0429	268240	5375106	0	0	0	0
0430	274769	5368486	0	0	0	0
0431	269273	5375442	0	0	0	0
0432	277183	5376642	0	0	0	0
0433	274335	5384479	0	0	0	0
0451	300050	5377210	0	0	0	0
0452	297194	5387065	0	0	0	0
0453	300894	5381119	0	0	0	0
0454	305287	5380819	0	0	0	0
0455	305272	5381048	0	0	0	0
0456	258585	5370196	0	0	0	0
0457	259177	5368594	0	0	0	0
0458	265562	5373113	0	0	0	0
0459	260451	5399216	0	0	0	0
0460	258269	5397849	0	0	0	0
0461	257049	5394440	0	0	0	0
0462	252205	5388302	0	0	0	0
0463	264284	5398710	0	0	0	0
0464	277808	5358317	0	0	0	0
0465	285507	5354038	0	0	0	0
0466	286273	5355255	0	0	0	0
0467	340854	5359719	0	0	0	0
0468	339961	5359381	0	0	0	0

Sample	UTM		Gold			
KAP-	Easting	Northing	Total	Reshaped	Modified	Pristine
0469	338247	5358728	0	0	0	0
0470	342833	5364236	0	0	0	0
0471	336205	5356792	0	0	0	0
0472	322671	5360079	0	0	0	0
0473	318867	5361699	0	0	0	0
0474	317669	5354598	0	0	0	0
0501	265013	5368048	0	0	0	0
0502	280917	5369040	0	0	0	0
0503	290963	5334828	0	0	0	0
0504	290451	5325179	0	0	0	0
0505	298720	5320478	0	0	0	0
0506	298376	5321328	0	0	0	0
0507	294742	5344971	0	0	0	0
0508	302218	5337116	0	0	0	0
0509	304655	5332284	0	0	0	0
0510	308633	5331069	0	0	0	0
0511	310635	5337597	0	0	0	0
0512	317926	5330521	0	0	0	0
0513	316742	5328880	1	1	0	0
0516	309892	5320994	0	0	0	0
0517	318310	5332537	0	0	0	0
0518	322377	5331367	0	0	0	0
0519	321632	5325048	0	0	0	0
0520	328965	5341840	0	0	0	0
0521	329115	5335910	0	0	0	0
0522	334099	5331602	0	0	0	0
0523	332549	5333028	1	1	0	0
0533	335463	5345487	0	0	0	0
0534	332266	5335121	0	0	0	0
0557	318376	5321369	0	0	0	0
0563	350686	5342231	0	0	0	0
0564	346071	5336019	0	0	0	0
0565	339505	5333365	0	0	0	0
0571	347226	5377480	0	0	0	0
0572	348947	5370891	0	0	0	0
0573	333253	5354402	0	0	0	0
0579	326315	5364477	0	0	0	0
0580	358847	5320030	0	0	0	0
0581	337424	5344523	0	0	0	0
0582	337252	5344531	0	0	0	0
0583	359988	5327802	0	0	0	0
0584	350106	5323846	0	0	0	0
0585	355157	5350004	0	0	0	0
0586	364884	5339074	0	0	0	0
0587	364075	5339176	0	0	0	0
0588	358371	5337401	0	0	0	0
0590	372593	5325551	0	0	0	0
0591	371442	5346466	2	2	0	0
0592	374971	5348934	0	0	0	0
0593	371050	5351464	0	0	0	0

Sample	UTM		Gold			
KAP-	Easting	Northing	Total	Reshaped	Modified	Pristine
0594	367873	5347907	0	0	0	0
0595	365994	5337719	0	0	0	0
0596	371163	5332226	0	0	0	0
0597	367951	5341235	0	0	0	0
0608	419182	5354488	0	0	0	0
0609	417035	5351879	0	0	0	0
0610	416496	5352178	0	0	0	0
0611	414527	5350229	0	0	0	0
0612	414532	5350030	0	0	0	0
0613	417096	5340918	0	0	0	0
0614	412813	5339333	0	0	0	0
0615	407145	5372469	0	0	0	0
0616	414993	5378466	0	0	0	0
0617	417634	5379910	0	0	0	0
0618	412747	5383044	0	0	0	0
0619	405282	5378624	0	0	0	0
0620	393951	5371298	0	0	0	0
0621	378151	5356635	0	0	0	0
0622	411789	5371731	0	0	0	0
0623	417287	5359451	0	0	0	0
0624	415060	5345502	0	0	0	0
0625	414181	5345385	0	0	0	0
0626	413571	5343198	0	0	0	0
0627	412194	5351339	0	0	0	0
0628	388172	5362297	1	1	0	0
0629	394207	5367126	0	0	0	0
0632	342418	5321734	0	0	0	0
0633	349873	5327456	0	0	0	0
0634	347316	5327244	0	0	0	0
0637	385543	5354864	0	0	0	0
0638	385458	5354750	0	0	0	0
0639	386360	5355620	0	0	0	0
0640	388440	5354944	0	0	0	0
0641	376506	5335825	0	0	0	0
0642	384435	5340125	0	0	0	0
0643	389065	5341226	0	0	0	0
0644	392378	5344962	0	0	0	0
0645	393798	5340636	0	0	0	0
0646	386017	5340270	0	0	0	0
0647	395850	5374746	0	0	0	0
0648	395617	5371592	0	0	0	0
0649	394876	5369560	0	0	0	0
0650	394070	5365088	0	0	0	0
0651	393789	5362091	0	0	0	0
0652	393738	5362117	0	0	0	0
0653	391294	5359869	0	0	0	0
0654	395566	5345904	0	0	0	0
0656	394810	5336788	0	0	0	0
0657	397198	5342151	1	1	0	0
0658	396871	5342098	0	0	0	0

Sample	UTM		Gold			
KAP-	Easting	Northing	Total	Reshaped	Modified	Pristine
0659	392821	5345130	1	1	0	0
0660	410551	5338009	0	0	0	0
0661	411013	5338062	0	0	0	0
0662	412948	5338756	0	0	0	0
0663	392331	5346927	0	0	0	0
0664	407068	5349763	4	4	0	0
0665	402437	5343456	0	0	0	0
0666	352455	5405341	0	0	0	0
0667	350147	5397916	0	0	0	0
0668	348287	5408937	0	0	0	0
0669	346610	5418580	0	0	0	0
0670	346283	5418776	1	1	0	0
0671	348086	5422481	0	0	0	0
0672	360173	5415940	0	0	0	0
0673	357346	5415874	0	0	0	0
0674	365136	5411344	0	0	0	0
0675	300478	5399340	0	0	0	0
0676	296783	5403833	0	0	0	0
0677	300050	5404286	0	0	0	0
0678	366476	5414709	0	0	0	0
0679	298511	5416915	0	0	0	0
0680	300476	5418790	0	0	0	0
0681	290640	5424680	1	1	0	0
0682	291575	5417750	0	0	0	0
0683	293605	5417496	1	1	0	0
0684	294607	5415519	0	0	0	0
0685	284009	5434585	0	0	0	0
0686	297368	5431806	0	0	0	0
0687	422679	5347317	2	2	0	0
0688	394063	5343131	1	1	0	0
0689	394680	5344243	0	0	0	0
0702	384378	5331156	0	0	0	0
0703	381601	5329453	0	0	0	0
0704	380647	5328930	0	0	0	0
0705	378433	5325739	0	0	0	0
0706	376254	5324419	0	0	0	0
0707	375175	5323432	0	0	0	0
0708	373019	5321361	0	0	0	0
0709	371162	5319869	0	0	0	0
0710	370583	5319527	0	0	0	0
0713	385734	5327733	0	0	0	0
0714	387003	5323961	1	1	0	0
0720	390320	5354808	0	0	0	0
0721	390550	5356058	0	0	0	0
0722	390802	5353759	0	0	0	0
0723	391004	5352923	0	0	0	0
0724	392772	5351650	0	0	0	0
0725	396503	5325523	0	0	0	0
0726	393753	5322819	0	0	0	0
0727	371073	5402062	0	0	0	0

Sample KAP-	UTM		Gold			
	Easting	Northing	Total	Reshaped	Modified	Pristine
0728	376393	5396971	0	0	0	0
0729	380667	5397172	1	1	0	0
0730	381994	5397227	0	0	0	0
0731	384956	5397513	0	0	0	0
0732	384926	5406404	0	0	0	0
0733	384757	5406438	0	0	0	0
0734	393222	5409544	0	0	0	0
0735	393942	5412019	0	0	0	0
0736	388166	5410554	0	0	0	0
0737	388342	5418558	0	0	0	0
0738	401047	5426403	0	0	0	0
0739	365095	5411388	0	0	0	0
0740	366757	5415493	0	0	0	0
0741	366091	5418525	0	0	0	0
0742	365304	5421009	2	2	0	0
0743	364845	5425534	0	0	0	0
0744	365759	5426137	0	0	0	0
0745	365750	5427385	0	0	0	0
0746	310729	5425569	0	0	0	0
0747	317256	5422619	0	0	0	0
0748	319656	5422669	0	0	0	0
0749	321656	5419004	0	0	0	0
0750	320560	5423569	0	0	0	0
0751	288445	5412161	0	0	0	0
0752	286307	5417314	0	0	0	0
0753	391352	5414627	0	0	0	0
0754	391701	5417027	0	0	0	0
0755	395253	5417819	0	0	0	0
0756	400531	5419187	0	0	0	0
0757	400464	5422145	0	0	0	0
0758	393403	5412057	0	0	0	0
0759	396988	5424469	0	0	0	0
0760	409543	5387875	0	0	0	0
0761	412103	5391519	0	0	0	0
0762	412987	5394013	0	0	0	0
0763	412460	5392354	0	0	0	0
0764	413038	5388567	0	0	0	0
0765	393638	5391480	0	0	0	0
0766	394167	5384055	0	0	0	0
0767	395003	5378096	0	0	0	0
0768	396668	5382210	1	1	0	0
0769	396303	5382071	1	1	0	0
0770	408750	5380234	0	0	0	0
0771	421702	5369719	0	0	0	0
0772	421003	5373219	0	0	0	0
0773	419838	5375269	2	1	1	0
0774	419998	5376659	0	0	0	0
0775	426510	5381064	0	0	0	0
0776	403336	5371518	0	0	0	0
0777	421381	5359135	0	0	0	0

Sample	UTM		Gold			
KAP-	Easting	Northing	Total	Reshaped	Modified	Pristine
0778	423040	5361504	0	0	0	0
0779	422565	5366893	0	0	0	0
0780	421759	5351996	0	0	0	0
0781	418718	5347801	0	0	0	0
0782	389721	5338451	3	3	0	0
0783	374404	5341878	0	0	0	0
0784	373154	5342574	0	0	0	0
0785	369914	5340628	0	0	0	0
0786	370198	5341997	0	0	0	0
0787	388970	5349943	0	0	0	0
0788	388897	5350038	0	0	0	0
0789	390051	5333180	0	0	0	0
0791	409134	5384628	0	0	0	0
0792	408635	5384673	0	0	0	0
0793	406408	5383761	0	0	0	0
0794	403401	5385353	0	0	0	0
0795	400885	5386144	0	0	0	0
0796	399970	5384684	0	0	0	0
0851	365092	5405994	0	0	0	0
0852	364574	5402504	0	0	0	0
0853	360641	5398144	0	0	0	0
0854	355286	5395159	0	0	0	0
0855	351296	5392583	0	0	0	0
0856	348460	5389463	0	0	0	0
0857	344159	5382681	0	0	0	0
0858	333177	5428586	0	0	0	0
0859	330186	5421050	0	0	0	0
0860	330210	5421049	1	1	0	0
0861	323931	5415267	0	0	0	0
0862	318417	5408826	0	0	0	0
0863	319392	5402424	0	0	0	0
0864	363348	5404897	0	0	0	0
0865	367935	5408631	0	0	0	0
0866	365007	5397864	0	0	0	0
0867	360509	5399660	0	0	0	0
0868	356106	5395533	0	0	0	0
0869	347645	5392438	0	0	0	0
0870	347830	5386496	0	0	0	0
0871	348320	5381165	0	0	0	0
0872	338143	5429740	0	0	0	0
0873	331749	5423339	0	0	0	0
0874	327641	5418112	0	0	0	0
0875	327489	5415669	1	1	0	0
0876	327629	5415591	0	0	0	0
0877	321319	5412713	0	0	0	0
0878	317453	5409274	0	0	0	0
0879	323678	5409381	1	1	0	0
0880	326920	5413235	0	0	0	0
0881	335522	5411869	0	0	0	0
0882	328047	5385108	1	1	0	0

Sample KAP-	UTM		Gold			
	Easting	Northing	Total	Reshaped	Modified	Pristine
0883	320159	5379854	0	0	0	0
0884	329056	5376733	0	0	0	0
0885	329740	5374700	3	3	0	0
0886	325100	5371380	2	2	0	0
0887	330602	5372626	0	0	0	0
0888	336845	5372996	0	0	0	0
0889	320130	5405728	0	0	0	0
0890	326603	5410997	0	0	0	0
0891	327289	5410128	0	0	0	0
0892	327946	5382705	0	0	0	0
0893	328471	5379680	0	0	0	0
0894	329752	5375119	0	0	0	0
0895	328313	5374094	0	0	0	0
0896	323106	5368853	0	0	0	0
0897	323230	5372976	0	0	0	0
0898	341163	5373185	0	0	0	0
0899	343992	5355811	0	0	0	0
0900	348805	5360769	0	0	0	0
0901	351720	5362261	0	0	0	0
0902	359136	5424354	0	0	0	0
0903	366237	5395185	0	0	0	0
0904	367328	5388640	0	0	0	0
0905	387822	5390266	0	0	0	0
0906	342382	5356058	0	0	0	0
0907	349174	5354829	0	0	0	0
0908	355943	5424466	0	0	0	0
0909	360342	5421262	0	0	0	0
0910	365952	5396845	0	0	0	0
0911	366896	5391482	0	0	0	0
0912	374135	5385743	0	0	0	0
0913	388685	5390331	0	0	0	0
0914	378933	5382781	0	0	0	0
0915	365296	5385297	0	0	0	0
0916	362187	5380269	0	0	0	0
0917	361420	5365161	0	0	0	0
0918	359426	5359044	0	0	0	0
0919	352541	5350864	0	0	0	0
0920	422939	5427355	0	0	0	0
0921	422358	5427395	0	0	0	0
0922	381695	5384202	0	0	0	0
0923	375063	5376369	1	1	0	0
0924	363812	5382793	1	1	0	0
0925	365068	5370539	0	0	0	0
0926	356496	5365037	2	2	0	0
0927	357493	5354528	0	0	0	0
0928	414845	5423512	0	0	0	0
0929	409000	5412993	0	0	0	0
0930	414524	5407973	0	0	0	0
0931	417657	5405676	0	0	0	0
0932	346887	5429836	0	0	0	0

Sample KAP-	UTM		Gold			
	Easting	Northing	Total	Reshaped	Modified	Pristine
0933	353094	5426389	0	0	0	0
0934	410967	5420117	0	0	0	0
0935	417686	5405647	0	0	0	0
0936	421948	5406074	0	0	0	0
0937	405118	5404369	0	0	0	0
0938	354610	5336268	0	0	0	0
0942	416754	5427204	0	0	0	0
0943	415761	5424313	0	0	0	0
0944	409659	5418779	0	0	0	0
0945	408564	5410533	0	0	0	0
0946	408604	5410549	0	0	0	0
0947	418486	5406140	0	0	0	0
0948	418489	5406158	3	3	0	0
0949	424804	5401906	5	5	0	0
0950	424812	5401857	0	0	0	0
1026	229269	5352279	0	0	0	0
1027	229545	5352266	0	0	0	0
1028	228028	5358411	0	0	0	0
1029	238363	5362569	0	0	0	0
1030	227932	5362279	1	1	0	0
1031	244180	5383904	0	0	0	0
1032	284132	5392479	0	0	0	0
1033	302111	5386805	0	0	0	0
1034	292505	5387407	0	0	0	0
1099	185165	5326290	0	0	0	0
1100	186259	5328314	0	0	0	0
1114	187419	5330088	0	0	0	0
1115	188773	5334136	0	0	0	0
1116	193221	5341519	1	1	0	0
1117	200674	5338888	0	0	0	0
1118	197226	5335876	0	0	0	0
1119	196245	5332017	0	0	0	0
1120	197008	5328906	0	0	0	0
1121	196400	5325112	0	0	0	0
1122	218667	5358189	0	0	0	0
1123	185580	5325250	0	0	0	0
1124	184123	5328009	0	0	0	0
1125	182559	5330811	0	0	0	0
1126	188319	5332530	0	0	0	0
1127	190253	5337862	0	0	0	0
1128	196294	5334165	0	0	0	0
1129	196078	5333420	1	1	0	0
1130	197516	5335721	0	0	0	0
1131	197261	5327238	0	0	0	0
1132	217384	5354952	0	0	0	0
1133	215711	5356558	0	0	0	0

Metric Conversion Table

Conversion from SI to Imperial			Conversion from Imperial to SI		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
LENGTH					
1 mm	0.039 37	inches	1 inch	**25.4**	mm
1 cm	0.393 70	inches	1 inch	**2.54**	cm
1 m	3.280 84	feet	1 foot	**0.304 8**	m
1 m	0.049 709	chains	1 chain	20.116 8	m
1 km	0.621 371	miles (statute)	1 mile (statute)	**1.609 344**	km
AREA					
1 cm^2	0.155 0	square inches	1 square inch	**6.451 6**	cm^2
1 m^2	10.763 9	square feet	1 square foot	**0.092 903 04**	m^2
1 km^2	0.386 10	square miles	1 square mile	2.589 988	km^2
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
VOLUME					
1 cm^3	0.061 023	cubic inches	1 cubic inch	**16.387 064**	cm^3
1 m^3	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m^3
1 m^3	1.307 951	cubic yards	1 cubic yard	0.764 554 86	m^3
CAPACITY					
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	**4.546 090**	L
MASS					
1 g	0.035 273 962	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 747	ounces (troy)	1 ounce (troy)	**31.103 476 8**	g
1 kg	2.204 622 6	pounds (avdp)	1 pound (avdp)	**0.453 592 37**	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	**907.184 74**	kg
1 t	1.102 311 3	tons (short)	1 ton (short)	**0.907 184 74**	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	**1016.046 908 8**	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	**1.016 046 90**	t
CONCENTRATION					
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

	Multiplied by	
1 ounce (troy) per ton (short)	31.103 477	grams per ton (short)
1 gram per ton (short)	0.032 151	ounces (troy) per ton (short)
1 ounce (troy) per ton (short)	20.0	pennyweights per ton (short)
1 pennyweight per ton (short)	0.05	ounces (troy) per ton (short)

Note: Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries, published by the Mining Association of Canada in co-operation with the Coal Association of Canada.

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